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THE
LARYNGOSCOPE.

VOL. LXII AUGUST, 1952. No. 8

SYMPOSIUM:

(a) — THE RELATIONSHIP OF BRONCHOSCOPY TO CHEST SURGERY.*†

FREDERICK G. KERGIN, M.D.,
Toronto, Canada.

Before discussing the matter of what the thoracic surgeon expects of the bronchoscopist in the way of help, it may be proper to inquire for a moment into the question of who should do the bronchoscopy. In doing so I am conscious of the fact that I am a lone surgeon, interested in thoracic surgery, faced by a very large number of bronchoesophagologists; but, even so, I am not apprehensive, because I believe that we shall have no difference of opinion. In my opinion there is no one answer to this question which is right in all circumstances. In those centers in which there is an organized service for thoracic surgery, and no other surgery is done by that service, the surgeons may have the time, interest and skill to do their own bronchoscopy. It is probably true that the bronchoscopist who can become most expert in the interpretation of what he sees through a bronchoscope is the one who constantly can check those findings against what he sees and feels through the open chest and what he finds on studying the excised specimen in the pathological laboratory. As opposed to that, there are many centers like ours in which

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†From the Surgical Service, Toronto General Hospital, and Department of Surgery, University of Toronto.

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general surgeons have too many other preoccupations to permit them to acquire the skill necessary for this work, and in which as teaching and training centers it is important to have bronchoscopy centralized in the hands of a relatively small number of competent specialists. As long as these experts are prepared to think beyond the bronchus, and keep up their interest in diseases of the lungs as a whole, by frequent conferences with the physicians, radiologists and thoracic surgeons, and follow their cases through to a final pathological diagnosis, this system can function in a most satisfactory fashion for all concerned.

From our point of view the functions of bronchoscopy fall under two headings — diagnostic and therapeutic. I do not wish to comment on all the observations which may be made through a bronchoscope, which are well known to you — but rather to discuss their significance and interpretation from the viewpoint of surgical therapy.

Under the heading of diagnosis, perhaps bronchogenic carcinoma should come first. The information you may give us relates first to the question of diagnosis and second to the question of operability. The ideal is actually to see the lesion and to obtain a tissue biopsy, which is always superior to a smear of secretions. At the present time we are seeing about 100 patients a year with primary bronchogenic carcinoma, and of these about two-thirds are tumors arising in a major bronchus and one-third are peripheral. In the first group our bronchoscopists are able to see and biopsy the tumor in a very high percentage of cases; in the second group — the peripheral tumors—the information they can give is limited to indirect observations related to the problem of operability such as bronchial compression by node or widening and fixation of the carina. A survey of our cases shows that we get direct demonstration of the tumor and a bite of tissue in 60 per cent of cases, and indirect information of value in a further 20 per cent of cases. It is obvious what invaluable aid this is to the thoracic surgeon.

As a supplement to bronchoscopy and direct tissue biopsy, we examine secretions aspirated by bronchoscope, and also

do multiple sputum examinations for cells. The latter has been more productive of positive reports than the former. In only 3 per cent of cases do we get a positive report on aspirated secretions when the other methods have failed. It is the group of peripheral tumors, which are out of sight of the bronchoscope, which least commonly desquamate cells to be recovered by examination of either sputum or aspirated secretions, so that frequently confirmation of the diagnosis rests on thoracotomy. Occasionally we use needle biopsy through the chest wall, but only in those patients in whom it seems desirable to prove the diagnosis, knowing that if the lesion is carcinoma it is inoperable, or at least incurable.

With regard to diagnosis, it is sometimes asked whether a bronchogenic carcinoma ever gives symptoms in the absence of any significant radiographic evidence. This is quite rare. I can recall two patients with such symptoms, with Roentgenograms negative even on review, in whom the bronchoscopist could see the tumor and take a biopsy, and so solve our problem.

The interpretation of bronchoscopic findings in relationship to operability requires considerable experience and close collaboration between bronchoscopist and surgeon. It is always wise to record vocal cord movements as being normal or otherwise; if this is not done, there may be some doubt later. We look on paralysis of a vocal cord as absolute evidence of inoperability. (I may remark, in parentheses, that this does not apply to phrenic paralysis.) In assessing widening and fixation of the carina it must be remembered that other condition such as silicosis, and occasionally old tuberculosis, can also cause this. In doubtful cases laminograms are a useful supplement to bronchoscopy in demonstrating the cause of the widening. It is important to assess carefully the visible limits of the growth in relationship to the carina. We like to divide the bronchus at least 2 cm. proximal to the visible and palpable growth. On the right side it is not difficult to excise some trachea, if necessary, but in the case of left-sided tumors the presence of the aorta makes this difficult or impossible. Time does not permit a discussion of the pros and cons of

palliative pneumonectomy in cases which are obviously incurable, or unlikely to be curable; suffice it to say that there is a group of patients who are ill because of infection due to a bronchus blocked by carcinoma, who will remain ill, and disabled by the infection, and die of infection long before they will die of cancer. We think that palliative pneumonectomy, when it is possible, will restore these people to relative health, and allow them to carry on with some useful occupation, often for a year or even up to several years.

With reference to bronchial adenomata, we do not subscribe to the belief that all of these should be treated as malignant tumors; we agree that local treatment is correct when our pathologists report the biopsy as benign and there is no evidence of metastases, providing the bronchi distal to the tumor have not sustained irreparable damage. Very rarely they are pedunculated and, if so, are suitable for endoscopic treatment. The great majority are sessile and show some degree of extension outside the bronchial wall; these are not suitable for endoscopic treatment, but a biopsy is of great assistance in determining their benignity. If, as is so often the case, bronchograms show bronchiectasis beyond the obstruction, lobectomy, or at times even pneumonectomy is the correct treatment. There is an occasional case without gross bronchial damage and only limited extension of the tumor, in which local resection of the bronchial wall, with plastic repair, is the treatment of choice.

The next group of diseases to consider is the infections. With respect to lung abscess, we consider that these should never be considered idiopathic until investigation, including bronschoscopy, has ruled out any cause for bronchial obstruction. This means that bronchoscopic examination should be done in every case, looking for foreign body, tumor or bronchial stenosis of inflammatory origin. Even if no obstruction is found, knowledge of which segmental branches is draining pus will help in localization of the abscess, in the event that external drainage becomes necessary.

Unlike some other centers, we have not been impressed with bronchoscopic drainage as a method of treating lung

abscess, and perhaps have not pursued this enough; however, I have seen a few cases in which even a single treatment of the bronchus, carried out through the bronchoscope, seemed to turn the corner, and an abscess which was draining badly suddenly drained freely and proceeded to symptomatic cure. I do not use the word heal, because any large lung abscess produces local tissue destruction. Although the infection may be overcome, there are local irreversible changes in lung, such as secondary bronchiectasis, which remain and may or may not give symptoms.

In bronchiectasis we commonly do a bronchoscopic examination, but in the straightforward case this does not usually have any particular advantage; however, unless this is done as a routine, one will occasionally miss an adenoma or foreign body or other underlying cause for the bronchiectasis. In actual fact, when bronchiectasis is due to foreign body inhaled years before, it is usually missed by the bronchoscopist because it is lying in a dilated bronchus, buried in granulations.

In the management of tuberculosis it is impossible to overestimate the importance of the bronchoscope. Some degree of bronchitis is present in every open case of tuberculosis, even if it be in only the tiny bronchus which is actually draining the cavity. It is necessary to know if any of the major bronchi are involved before undertaking any form of collapse or excision therapy. Repeated examination is essential to follow the course of healing under streptomycin therapy, and to determine when surgical treatment is safe. This is one special field of bronchoscopy which I think can be very well handled other than by bronchoesophagologists; the full time sanitorium staff can become extremely expert.

Occasionally we encounter broncholiths which are causing hemoptysis or symptoms of bronchial obstruction, and they can be recognized and treated by bronchoscopic examination.

Time does not permit mention of the many other more rare conditions which can on occasion be recognized by bronchoscopic examination. These include the lymptomata, broncho-

genic sarcoma and so on. On one occasion we obtained a biopsy from a bronchus which confirmed the diagnosis of pulmonary sarcoidosis.

To turn for a moment to the therapeutic uses of the bronchoscope, one thinks first of atelectasis. Prevention of atelectasis, by active nursing methods and good cough discipline, is better than cure; but I believe that if it once progresses to the point when a lobe or lung has become atelectatic and airless, the time has come when the patient can no longer clear his bronchus by cough. He cannot get the air into the lobe with which to cough the mucus out. The answer is bronchoscopic suction at the earliest possible moment. If one delays, the mucus backs up into the smaller bronchi and may reach the point where even careful suction cannot clear it and result in expansion of the lobe. Atelectasis of the remaining lobe is a special problem after lobectomy for bronchiectasis, particularly in bilateral disease, and we are very alert to recognize it and lean heavily on bronchoscopy in its treatment. It may be mentioned that in a very occasional postlobectomy case, in which even repeated bronchoscopic suctions could not clear a lobe and produce expansion, we have reopened the chest, milked the mucus out by massage and suction, inflated the lobe and closed the chest, with underwater drainage. This has been most effective.

In chest trauma, where pain and unstable chest may make cough ineffective, atelectasis is again a problem. Intercostal nerve blocks and chest support may solve the problem, but at times bronchoscopy is necessary. More and more, in the severe cases, we are inclined to do a tracheotomy to permit frequent suction. When rupture of the trachea or a bronchus is suspected on clinical grounds, this diagnosis can be confirmed by bronchoscopy. Immediate repair of the rupture is the correct treatment.

Before leaving the question of therapy one may refer to the use of the bronchoscope as a means of insufflating or irrigating the bronchial tree with antibiotics. In conditions such as bronchiectasis, the organisms in the pus lying in the

bronchi are not the important ones; they are outside the body. It is the organisms living and multiplying in living tissue that matter, and the best way to approach them with antibiotics is through the blood and tissue fluids. Irrigating the bronchi with antibiotics in solution may improve drainage and so be beneficial, but as far as any specific antibiotic effect is concerned, it could perhaps be compared to irrigating the colon with antibiotics through a sigmoidoscope as therapy for ulcerative colitis.

This brief review has not done justice to all the functions of bronchoscopy in its relation to the surgical therapy of lung disease. I hope that the succeeding speakers may suggest or fill in the gaps.

SYMPOSIUM:

(b) — THE RELATIONSHIP OF BRONCHOSCOPY TO CHEST SURGERY.*

CHEVALIER L. JACKSON, M.D.,
Philadelphia, Pa.

Almost 30 years ago, Chevalier Jackson (1924), at a meeting of the Section on Laryngology, Otology and Rhinology of the American Medical Association in Chicago, spoke on "Bronchoscopy as an Aid to the Thoracic Surgeon."[1] He compared bronchoscopy in its relation to thoracic surgery with cystoscopy in its relation to genitourinary surgery. He pointed out the fact that in both cases both the X-ray and endoscopy were indispensable. He called attention to the fact that in both fields suppurative lesions had to be treated, and endoscopic methods frequently aided in improving drainage. He pointed out that in both instances biopsy of tumors was done by the endoscopic route; furthermore, in both cases, endoscopic measures were useful in pre- and postoperative treatment, and in palliative treatment of the inoperable cases. When obstruction was present, whether due to foreign body, inflammatory stenosis, or tumor, it could very often be removed by endoscopic methods, and it could almost invariably be accurately diagnosed, even in cases where other measures were necessary for treatment. In conclusion, it was stated that the bronchoscopist was "merely an assistant to the internist and the thoracic surgeon," except in the foreign body cases.

Foreign Bodies: Almost all, including many of the seemingly very difficult upper lobe foreign bodies, can now be removed by means of the bronchoscope and its auxiliary in-

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struments.[2] Of course, in the rare cases of foreign body in the upper lobe, the procedure is much more difficult; and in these cases, as well as in those of foreign bodies in the peripheral bronchi, the aid of the biplane fluoroscope is indispensable.

In the case of nonopaque foreign bodies in the peripheral bronchi, such as grass heads, which have a tendency to "ratchet" themselves further and further out into the periphery, we cannot make use of fluoroscopic guidance because the foreign body is not opaque. It is in these cases that not infrequently resort must be had to thoracic surgery, for removal of the foreign body by bronchotomy or by segmental or lobar resection.

Tumors: In bronchial tumors, bronchoscopy is of great diagnostic aid, and in many of the benign tumors bronchoscopic removal is curative. When the tumor is located in the larger bronchi, accessible to direct bronchoscopic vision, biopsy is easy and is carried out by means of bronchoscopic forceps. Our present preference is for the type of forceps originally designed for the removal of ball-shaped foreign bodies, known as the "ball forceps." In the case of tumors located beyond the range of bronchoscopic accessibility, cytologic study of bronchial secretion, the specimen being collected from the bronchus leading to the suspected area, has greatly increased the percentage of early positive diagnoses. Cytologic studies are more valuable in the case of malignant tumors than in the case of benign tumors such as bronchial adenoma, but as a matter of fact the benign tumors and especially the adenomas are generally located in the accessible bronchi, and ample specimens of tissue can be taken from the tumor directly, without the use of cytologic methods.

With regard to treatment, we have now come to the belief that about half of the cases of adenoma are better treated by resection of the lobe or the lung;[3] however, we still strongly believe that in the cases of adenoma in which the tumor is attached by a narrow base and is readily accessible to bronchoscopic instrumentation, endoscopic removal by forceps and

electrocoagulation is to be preferred (see Fig. 1). In our experience we have found that very few, if any, true adenomas prove malignant or undergo malignant change. Certainly this remote possibility is not a sufficient reason to advise

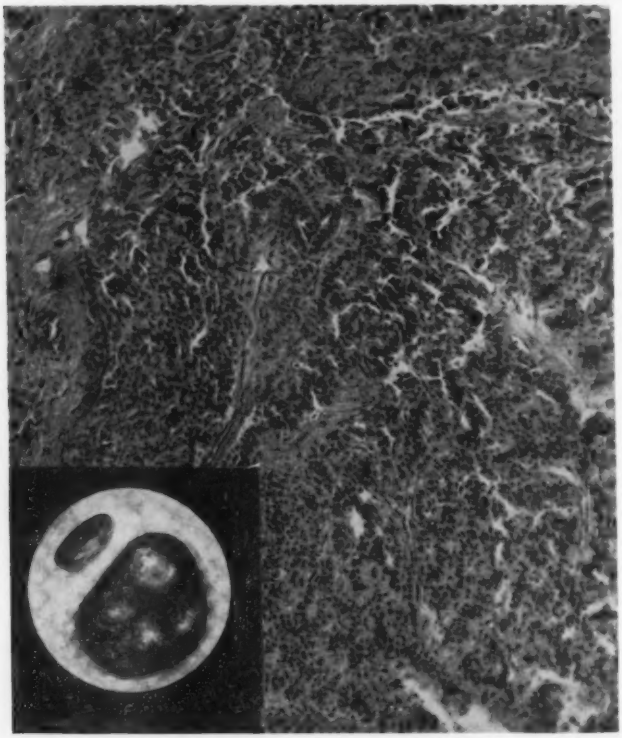

Fig. 1. Typical histologic picture of bronchial adenoma of the "carcinoid" type. Lower left, gross appearance of tumor obstructing left lower lobe bronchus. Endoscopic removal was satisfactory in this case.

surgical resection. On the other hand, if complete endoscopic removal is not possible and there remains some narrowing of the bronchus, due to either collapse or compression, and if there is any bronchiectatic or other abnormality of the distal portion of the segments beyond the tumor, surgical resection

is indicated (see Fig. 2). One reason for the rather considerable number of cases in which endoscopic treatment has proven unsatisfactory is the fact that a considerable amount of the tumor is apt to be located extrabronchially, where endoscopic removal is obviously impossible. The type of bronchial tumor

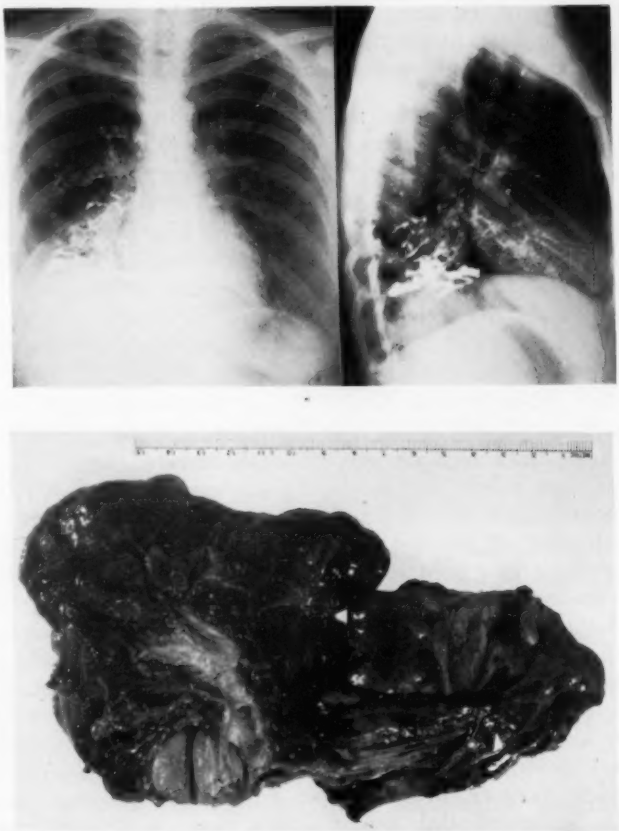

Fig. 2. Roentgen-ray appearance in case of right lower lobe bronchiectasis due to obstruction by bronchial adenoma. Note that the middle lobe is perfectly normal, as shown in the lateral Roentgenogram. Lobectomy was necessary in this case because a considerable portion of tumor was extrabronchial.

known as "cylindroma" should be differentiated from bronchial adenoma of the ordinary or "carcinoid" type. When feasible, resection should probably be resorted to even more promptly in a case of cylindroma than in a case of bronchial adenoma. On the other hand, we have had two cases of cylindroma in which surgery has not been done because of the proximity of the tumor to the carina, and these two patients have now been under treatment at rather long intervals for a period of more than five years.

Suppurative Diseases: In suppurative diseases of the bronchi and lung, bronchoscopy is of great value for diagnosis and treatment, both independently of surgery and in conjunction with it. After the usual physical examination and a careful X-ray study, the next step in the diagnostic evaluation in any case of bronchopulmonary suppuration should be bronchoscopy. This is important to determine the presence or absence of obstruction and to secure uncontaminated specimens of bronchial secretions for bacteriologic study and particularly for tests of sensitivity to the various antibiotics. As for its use in treatment, we may say that in occasional cases bronchoscopic aspiration may contribute very largely to cure. In most cases of suppurative disease, however, bronchoscopy is of value chiefly as a pre- and postoperative treatment, and, of course, as a palliative measure in the inoperable cases. In the history of the treatment of *pulmonary abscess*, we feel that there have been several periods. In what we might call the prebronchoscopic period, this condition was a very grave and even highly fatal one. The advent of the bronchoscope, with the aid it afforded to postural drainage, definitely increased the number of patients surviving.[4] Surgical drainage had been used, of course, previous to the advent of bronchoscopy and was still being used; however, operative mortality was running high. Thus, with the advances in technique of thoracic surgery, bronchoscopic drainage, done early, especially in the so-called "putrid" cases, began to yield a higher percentage of cures, and it came to be recognized that the prolonging of conservative treatment, including bronchoscopic drainage, was unwise in many cases. The pendulum, there-

fore, swung in the direction of more radical surgical treatment. With the advent of the "sulfa" drugs and the subsequently even more efficacious antibiotics, the pendulum has swung back again toward more conservative treatment, including bronchoscopy for drainage and the instillation of antibiotics. The recognition of the importance of the bronchopulmonary segment for the more accurate localization of disease and more accurate endoscopic diagnosis and treatment has played an important rôle[5,6] (see Fig. 3).

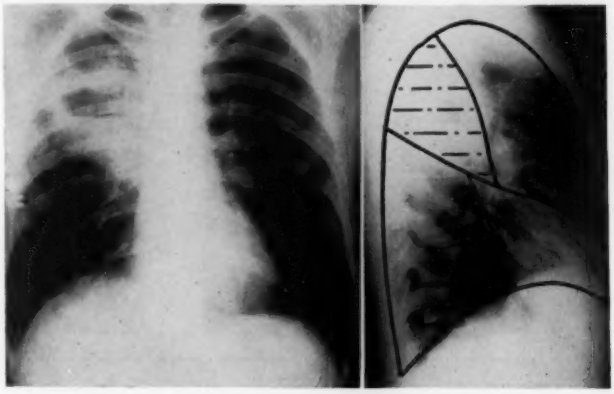

Fig. 3. Pulmonary abscess involving the posterior segment of the right upper lobe. Segmental localization is of fundamental importance in the proper execution of postural, bronchoscopic, or external surgical drainage.

In *bronchiectasis*, bronchoscopy, with complementary bronchographic studies, is of great pre- and postoperative value, but there is no doubt that the only effective curative treatment of established bronchiectasis is by resection. Bronchiectasis is, as has been well said by Overholt,[7] a "segmental disease" and obviously, segmental localization is of the greatest importance (see Fig. 4). Before planning the program of surgical treatment in a case of bronchiectasis, it is necessary to map by bronchography all five lobes of the two lungs. Likewise, the endobronchial appearances should be carefully studied and recorded. We believe that bronchoscopic aspiration

can be of curative value in the early cases of bronchiectasis, and certainly in the cases of "pseudobronchiectasis," where the dilatations have not yet become irreversible; it is also of value in all cases as a pre- and postoperative measure, and in inoperable cases, it has very considerable palliative value.

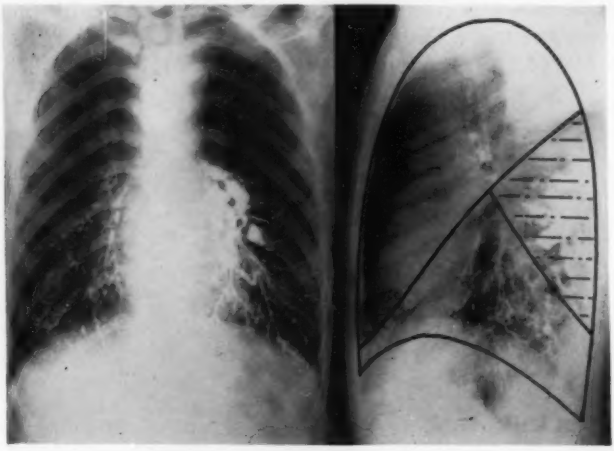

Fig. 4. Bronchiectasis localized to superior segment of left lower lobe. Segmental resection is indicated.

In *empyema*, bronchoscopic observations have shown that bronchial obstruction, of one kind or another, can be an important etiologic and perpetuating factor. In our experience, we have seen foreign bodies, both opaque and non-opaque, cicatricial stricture, compression stenosis, endogenous foreign bodies such as broncholiths, among other causes of obstruction (see Fig. 5). It should be emphasized, that while empyema can rarely be effectively drained through the bronchus, either spontaneously or by the aid of bronchoscopy, permanent cure will not be obtained by external drainage so long as bronchial obstruction is present. It is, therefore, suggested that in every case of empyema the surgeon provide himself with full knowledge of the endobronchial condition, preferably before carrying out surgical drainage.

Now, one question which I should like to discuss briefly is the question of *who should do bronchoscopy.* Several years ago, I was invited to discuss bronchoscopy before the Section on Oto-Rhino-Laryngology of the British Medical Association,

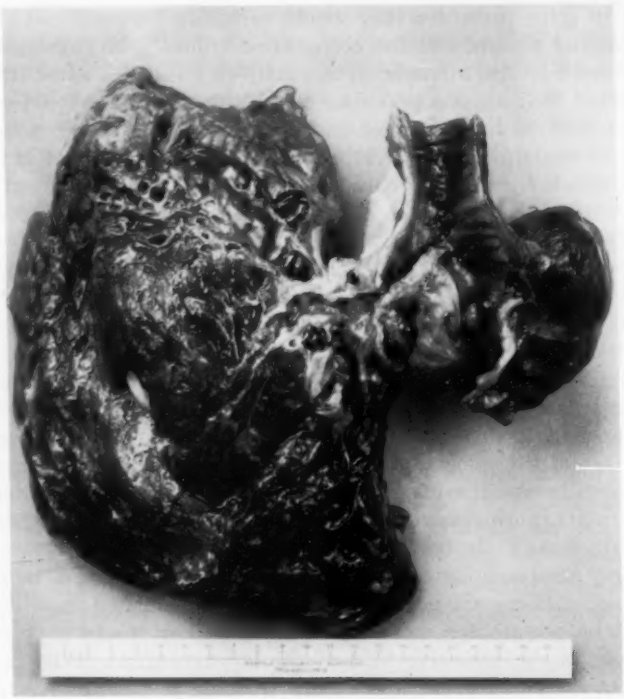

Fig. 5. Postmortem specimen demonstrating stenosis of main bronchus which was the cause of pulmonary suppuration and *empyema* which caused patient's death. A wheeze had caused physicians to make an erroneous diagnosis of asthma. Diagnostic bronchoscopy would have led the way to curative treatment.

at its meeting in Aberdeen.[8] I gave my views on this subject on that occasion, and I subsequently came to realize that my British colleagues were very much disappointed in the attitude I took, because they were very resentful of the inroads being made by the thoracic surgeon into what they considered

an important part of the field of the laryngologist. I took the view that anyone who wanted to obtain the proper training in the endoscopic procedures had the right to carry them out. I stated that the time had come when physicians and thoracic surgeons fully realized the value of peroral endoscopy and yet in some instances they would certainly have difficulty in obtaining prompt and full cooperation from the laryngologist. I urged a liberal attitude on this subject, but at the same time insisted that anyone planning to do bronchoscopy should see to it that he had obtained the proper training and practice before examining and treating human patients. Ewart Martin[9] was invited a few years later to discuss bronchoscopy at a meeting of the Section on Laryngology, Otology and Rhinology of the American Medical Association at Atlantic City. I was a little disappointed that Martin ignored my discussion at Aberdeen, and, of course, one of the reasons probably was the fact that he took a very different view. He certainly stated very frankly that he thought bronchoscopy belonged to the laryngologists, and that every effort should be made to retain it as a part of laryngology. I still feel that the work must necessarily be done by specialists working in various different fields, and we welcome to our postgraduate courses at Temple University anesthesiologists, thoracic surgeons, pediatricians, internists, phthisiologists and oncologists, as well as the otolaryngologists. In his address as President of the American Bronchoesophagological Association a few years ago, Schall[10] stated: "There are pessimistic souls and frustrated individuals who bewail this intrusion into what they would have us believe is the exclusive field of the laryngologists. Who can resent an internist with sufficient training and skill who desires to complete his examination by his own endoscopic work? Who can censure the thoracic surgeon who wishes to see for himself the problem for which he is going to operate? Surely this specialty is big enough for all who are willing to devote the time and the effort to acquire the skill to perfect themselves in this art. Only by teamwork with other branches of the medical sciences will progress be made. Bronchoesophagology is not at the crossroads, but is on the high road of scientific progress."

Thorough intensive special training in bronchoscopy and esophagoscopy is necessary for anyone who plans to use these procedures. Such training is necessary in order that they may be done *safely* and *efficiently* and *with a minimum of discomfort.* I emphasize safety because these procedures can be very dangerous. Before the development of refined technique, the mortality was high. In the second place, I stress efficiency because it is desirable that we accomplish the visualization and removal of the foreign body, if the case is one of foreign body. If the lesion is a tumor, then it is desirable that we exercise the greatest efficiency in order to obtain confirmation of the diagnosis by biopsy or cytologic study. This requires the skillful obtaining of the tissue specimen or the secretions for laboratory examination. In the third place, I contend that it is important to see to it that the procedure causes the patient as little discomfort as possible. Endoscopic examinations and manipulations can be severe ordeals for both the patient and the endoscopist, but with proper training and experience the strain and discomfort suffered by both is minimized.

Before closing, I wish again to call attention to the importance of the modern understanding of applied bronchopulmonary anatomy and particularly the concept of *the bronchopulmonary segment.*[5,6] This concept is of vital significance in the diagnosis and treatment of diseases of the bronchi and lungs. It is important in pulmonary abscess and in bronchiectasis, and also in tuberculosis. It is of importance in the early diagnosis of tumors of the bronchi and it is of obvious importance in the localization and extraction of foreign bodies. Furthermore, the wide adoption of a common simple nomenclature is essential to the mutual understanding of the bronchoscopist and the thoracic surgeon, as well as, of course, in the understanding between both of these and the radiologist. It is to be hoped that in the near future a universal agreement will be reached on this subject (see Fig. 6).

Finally, I wish to urge that bronchoscopy not be considered as competitive with surgery. We should avoid the "partisan spirit," and think not of bronchoscopy versus surgery, but of

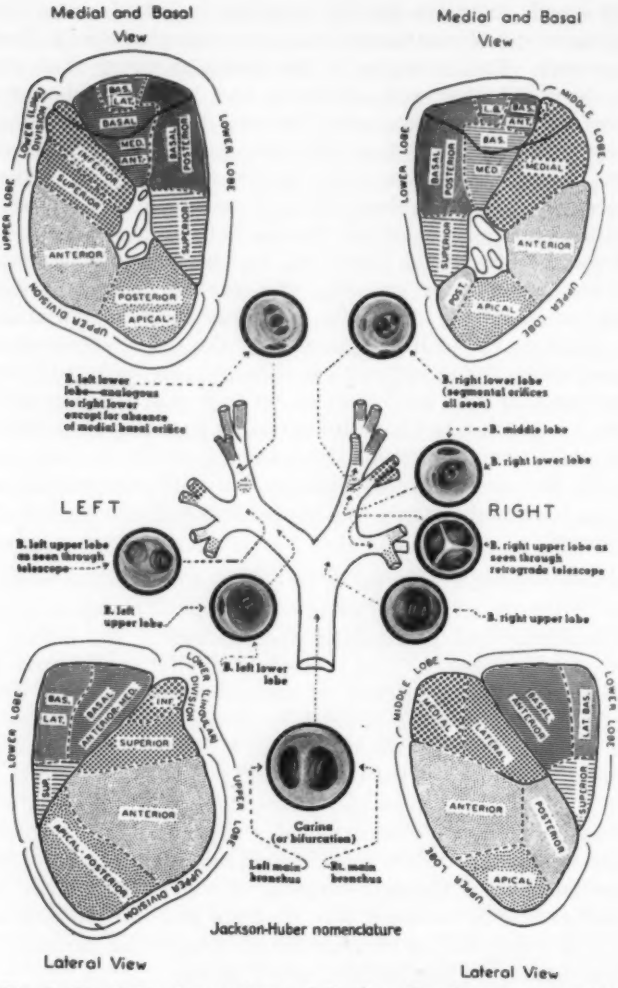
Medial and Basal View
Medial and Basal View
B. left lower lobe—analogous to right lower except for absence of medial basal orifice
B. right lower lobe (segmental orifices all seen)
B. middle lobe
B. right lower lobe
LEFT
RIGHT
B. left upper lobe as seen through telescope
B. right upper lobe as seen through retrograde telescope
B. left upper lobe
B. right upper lobe
B. left lower lobe
Carina (or bifurcation)
Left main bronchus
Rt. main bronchus
Jackson-Huber nomenclature
Lateral View
Lateral View

Fig. 6. Chart showing anatomy of the bronchopulmonary segments and their corresponding segmental bronchi. The endoscopic landmarks of the various segmental bronchial orifices are shown in the circles. The inverted position is used in order to present the anatomical parts in the same relation as these parts bear to the bronchoscopist's eye during bronchoscopy. (From Jackson and Jackson, "Bronchoesophagology," W. B. Saunders Co., Philadelphia, 1950).

bronchoscopy plus surgery versus the disease. Let us think of the bronchoscope as a bronchial speculum; as such, we must recognize that it is an instrument indispensable in the diagnosis and treatment of bronchial disease, and one of the most important instruments in the hands of the thoracic surgeon, whether he chooses to use it himself, or to delegate its use to a bronchoesophagologist or laryngobronchoesophagologist on his staff.

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SYMPOSIUM:

(c) — THE RELATIONSHIP OF BRONCHOSCOPY TO CHEST SURGERY.*†

EDWIN N. BROYLES, M.D.,
Baltimore, Md.

The last 25 years have seen a change in the application of bronchoscopy. Though the removal of foreign bodies and the aspiration of purulent secretions from the trachea and bronchi are still important, by far the most frequent use of bronchoscopy today is to examine and study carefully the trachea and bronchi to determine pathological lesions in the lower air passages.

What has happened and why has this change taken place? The genius of Gustav Killian and his assistants began bronchoscopy, and to Chevalier Jackson, because of his ability, his work and his teachings, is due the great interest in and the development of modern bronchoscopy. With the increase in the numbers of doctors, mostly laryngologists who did endoscopy, many cases of bronchiectasis and lung tumors were diagnosed. These cases were discussed with those surgeons interested in chest diseases (tuberculosis and empyema). Soon, lobectomies were being done for bronchiectasis and pneumonectomies for lung tumors (Graham, 1933; Rienhoff, 1933). In 1916, Dr. L. F. Barker, a distinguished clinician, wrote of bronchoscopy, "With some practice it is possible to view the bifurcation of the trachea, the entrance into the two chief bronchi, and the subdivision of a main bronchus. Only experts can be expected to use the apparatus." This was just one year after Chevalier Jackson had published his enlarged work (1915) on "Peroral Endoscopy and Laryngeal Surgery."

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†From the Department of Otolaryngology, Johns Hopkins Hospital.

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The association of bronchoscopy to chest surgery, and especially to lung surgery, is extremely close. Chest surgery also includes surgery of the heart, mediastinum, esophagus, and the great vessels, and to this surgery bronchoscopy is not so closely related. The association of bronchoscopy to chest surgery may be likened to the association of laryngoscopy and laryngeal surgery. Before laryngoscopy, Ehrman found 31 cases in all the literature of laryngeal tumors removed by surgery. From 1854 to 1899, after laryngoscopy had been developed by Garcia, F. Semon gathered 12,297 cases of laryngeal tumors. Greater vision had improved the diagnosis and also the treatment. Likewise, the wider use of the bronchoscope and bronchoscopy has improved the diagnosis and treatment of diseases of the lower respiratory tract.

Should bronchoscopy be done by the laryngologist or the chest surgeon or by a doctor trained and interested in endoscopy? The answer is obvious. If a chest surgeon is interested and trained in bronchoscopy, there is no reason why objections should be raised, nor should objections be raised if an endoscopist, after proper training, should do chest surgery. In large clinics, however, the amount of endoscopic work and chest surgery is so great that it is difficult for one service to do both efficiently.

Competent endoscopy requires long training, constant practice, and a large quantity of delicate equipment, and for best results, in my opinion, should be under the direction of one who is interested primarily in its use and development.

One use of bronchoscopy is to select cases suitable for chest surgery. For those cases requiring surgery it must not only give aid in the diagnosis but also information to the surgeon as to the physical condition of the lower respiratory tract. During operations or in the postoperative state, endoscopic therapy can also mean the difference between life and death. Bronchoscopy is an adjunct of chest surgery, though it is a complete specialty in itself.

Bronchoscopy is just one part of endoscopy, whereas chest surgery serves the whole field (lung, mediastinum, heart,

blood vessels and esophagus). Telescopic views of the upper lobe bronchi have enlarged the visual field, and magnification has aided the closer study of pathological lesions.

The bronchoscopic removal of tissue for diagnosis and cells for microscopic study can give positive diagnostic answers. The endoscopist is a member of a chest team along with the surgeon, roentgenologist, physician and pathologist. Each has an important rôle in the diagnostic and therapeutic problem. One operation, one X-ray film, one physical examination, one microscopic slide may clear the confusion and the findings of one bronchoscopic examination can be the solution of a most puzzling lung picture.

ANATOMICAL CONSIDERATIONS OF DEEP INFECTIONS OF THE NECK.*

J. C. BOILEAU GRANT, M.D. (by invitation),
Toronto, Canada.

The structures in the neck are few in number and, like the structures in the limb, they mostly run longitudinally — from the skull through the neck to the thorax, some reaching even the abdomen. In the midline lie the viscera of the neck — pharynx and esophagus, larynx and trachea, and the associated thyroid gland. On each side of these lies a vagus nerve. This vagus or vagrant nerve supplies these viscera, and with the carotid arteries and the internal jugular vein, it occupies a place in the carotid sheath. On each side is the sternomastoid; in front are the depressors of the hyoid bone.

That these various structures do not rattle about loosely in the neck is due to the fact that they are embedded in a matrix of areolar fascia. Were it not for this fascia, pus resulting from deep infections would flow freely among the various structures of the neck much as rising flood water flows freely between the trees of an inundated forest.

This leads us to ask ourselves, "what is the nature of this so-called areolar fascia?" We would briefly answer, "just as fishes and other objects in the sea are wet all over with water, so in the embryo all the structures in the neck are, as it were, wet all over with mesoderm — mesenchyme — in which they developed". As the structures develop they enlarge and expand and the relative amount of mesenchyme may diminish, *e.g.*, in the case of the parotid and submandibular glands only a thin partition remains to separate them, and it becomes the stylomandibular ligament.

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Areolar Tissue: We must be careful, then, to think of fascia not as so many sheets of paper but as partitions or septa in a sponge or in a honeycomb. Some partitions may be almost as strong as fine steel; others are as delicate as gossamer.

Our problem, then, is largely one of knowing where the fascia is thick and resistant; where gossamer-like and, therefore, negligible clinically.

Just as loose areolar tissue is required between the bladder and the rectum to allow each of these hollow organs to expand and contract independently of each other, so areolar tissue is required between the trachea and the esophagus; and a still greater quantity is required between the esophagus (and at a higher level the pharynx) and the prevertebral muscles, in order to allow movements of swallowing and movements of the neck.

In the retropharyngeal region there is much loose, froth-like areolar tissue, which is very easily broken down with the finger. It extends laterally to the carotid sheath. If the peritoneal cavity extended to the neck it would be found here between the viscera and the depressors of the larynx, which indeed represent the rectus abdominis and might well be called the rectus cervicis.

Here, then, are three loosely filled spaces, prevertebral, retropharyngeal and pretracheal, which when followed downwards lead to the superior mediastinum.

The prevertebral and the retropharyngeal spaces are readily approached from behind the sternocleidomastoid muscle and the carotid sheath; in approaching the pretracheal region and root of the neck I would remind you of an unnamed vein that lies along the anterior border of the sternocleidomastoid muscle, commonly present, sometimes achieving the size of one's finger and, therefore, likely to be mistaken for the internal jugular vein. This disconcerting vessel connects the common facial vein to the anterior jugular vein.

At the root of the neck, pleura clothes the esophagus (which bulges to the left) on each side and may be wounded.

Running from the skull through the neck to the thorax is the carotid sheath. This sheath is actually a tunnel in the areolar sponge-work. Its condensed wall fits it like a loose garment, and where a branch leaves the artery a branch leaves the canal, too, with the result that there is a loose areolar branching system of tunnels throughout the neck, *e.g.*, the facial artery, on leaving the external carotid runs in a canal that traverses first the parotid region, the submandibular region and ends in the face.

Above the hyoid bone three areolar spaces engage our attention: the pterygomaxillary, also called the lateral pharyngeal, the parotid and the submandibular.

It is important to note that these spaces do not descend below the hyoid bone, for no muscle crosses the hyoid bone. Indeed, the simplest means of entering the pharynx, theoretically, is to cut through skin, hyoid bone and mucous membrane, for no muscle crosses the hyoid bone, either on the outside or the inside; so it is a barrier, shall we say, between the north and the south. In order to spread to lower levels, pus in either of these regions must either burst onto the surface or pass backwards and descend with the carotid sheath.

The lateral pharyngeal space is the space that may be infected either from the tonsil or by a needle carrying infection when the dentist injects the lingual and inferior dental nerves. It is largely filled with fat and crossed obliquely by the medial pterygoid muscle. Medially is the superior constrictor; laterally, the ramus of the jaw behind the parotid gland, the styloid process and the carotid sheath. The fascia in front of the parotid is the strong stylomandibular ligament. The fascia in front of the carotid sheath extends to the side wall of the pharynx and is as strong as fine steel.

This slide shows the tonsil herniated between the fibres of the superior constrictor — the surgeon could hardly be blamed if the space were infected when removing such a tonsil. We

see the Eustachian tube at the roof of the space and we see where the steel-like stylopharyngeal membrane extends from the styloid process, the lower border of the tympanic plate and the pharynx. The carotid artery and the jugular vein are behind.

Here we have the lateral pharyngeal space seen from behind. The carotid sheath and the steel-like stylopharyngeal ligament have been removed, thereby revealing some of the fat in the space, which extends up to the Eustachian tube.

This slide shows where the injecting needle would pierce the buccinator before passing between the ramus of the jaw and the medial pterygoid.

To enter the space from the neck it is well to keep below the border of the jaw, lest we encounter facial artery and vein and the nerve to some depressors of the lower lip; so, using Mosher's approach, we must divide some branches of the common facial nerve, raise the submandibular gland, push through the roof of its ballooned-out space and pass upwards close in front of the angle of the jaw towards the tip of the styloid process.

The process may be short or long or it may extend down to the lesser horn of the hyoid bone, in which case it is in several pieces articulated together.

We then push up, keeping close to the medial side of the medial pterygoid, which on this surface receives many small twigs from the facial artery, and more posteriorly a tortuous internal carotid artery may be applied to it.

Our deeper landmarks are the greater horn of the hyoid bone, above which is the posterior belly of the digastric, here crossing the hypoglossal nerve before passing deep to the mylohyoid muscle. I think it is evident that an infection round about the lingual nerve can travel downwards into the mouth along the nerve backwards along the duct into the submandibular region. Fig. 17 showed cross-section of the head just below the level of the mastoid process. Fig. 18 showed some adenoids, the mouth of the Eustachian tube and

the apical part of the lateral pharyngeal recess; the steel-like portion, stylopharyngeal ligament in front of the carotid sheath and the thin gossamer-like covering of the parotid gland above the level of the stylo-mandibular ligament, which with a mere covering of fascia projects into the lateral pharyngeal space.

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PRACTICAL CONSIDERATIONS IN THE RELATIONSHIP OF SEPTAL PROCEDURES TO RHINOPLASTY.*†

E. R. V. ANDERSON, M.D.,
Los Angeles, Calif.

In recent years a great increase in attention to surgery of the anterior segment of the nose to correct defects interfering with nasal function has taken place, stimulating tremendous improvement in our techniques for correcting defects of this region. This surgery must necessarily involve the skeletal structures of the external nasal pyramid, of the columella and of the septum as well.

Without entering into a controversy regarding which specialty should deal with defects of the nasal pyramid, it can be said unequivocally that no rhinologist can deal adequately with nasal function without availing himself of the surgical principles of rhinoplasty. Inevitably, one must quickly add that cosmetic factors, either acknowledged or subconscious, will frequently play a part. I have never had a patient complain about the cosmetic improvement which incidentally resulted from the straightening of a deviated nasal pryamid coincident with surgery to correct mechanical obstruction of the nasal airway.

Literature on the problems of deformities of the septum, as they affect the nasal airway, appeared around the turn of the century. The paper of Freer,[1] read before this Society in June, 1905, at Boston, and Killian's[2] paper, which was published the same year, are landmarks in the history of otorhinolaryngology. The awakening interest of rhinologists,

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†From the Department of Otorhinolaryngology, University of Southern California School of Medicine, Los Angeles, Calif.

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generally to rhinoplasty, however, stimulated a great deal of thought regarding the relationship of defects of the nasal pyramid and its skeleton to obstruction of the nasal airway. Noteworthy are the papers of Fomon and his group,[3-5] Becker,[6] Salinger,[7] Converse[8] and Peer.[9]

The first real effort to deal with defects of the caudal end of the septum was made by Metzenbaum[10] in 1929. Since this contribution, an evolution in our concept concerning the rôle played by the septum in giving support to the nasal structures has taken place. This subject is treated in detail elsewhere, but suffice to say, whether one believes in the importance of the septum as a support to the external nasal pyramid, will color one's appraisal of the relative merit of various operations proposed to correct various septal deformities.

To establish my position, I am convinced that the external nasal skeleton will stand by itself without support of the nasal septum, unless that nasal skeleton made up of the nasal bony processes, upper lateral cartilages and lower lateral cartilages are congenitally aberrant or rendered abnormal by factors to be discussed later in this paper.

I also believe the collapse of the nasal tip or of the upper cartilaginous part of the external nasal pyramid following corrective surgery of deviations of the nasal septum is due to the internal traction forces of healing of deskeletonized membranes and *not* to lack of support *per se*.

Peer, in 1937, was one of the first after Metzenbaum to undertake the problem of deviations and deformities of the caudal end of the septum. Fomon and his group have arrived at a solution of this problem essentially similar to that of Peer, but for radically different reasons. Converse and Becker, as well as many others, have discussed in detail their techniques for treating various kinds of deformities of the septum when associated with deformities of the nasal pyramid.

Due to the number of variations and combinations of deformities that are possible, a general discussion of the whole problem must necessarily underemphasize the practical

details of the relationship of those procedures to rhinoplasty. The final object of the procedure, the character of the cartilage to be dealt with, the duration of the procedure, the effective duration of the anesthetic, and the proper selection of sequence of multiple procedures are factors of the greatest practical importance in planning one's solution for any given specific case. These practical factors will here be enumerated and discussed before consideration is given to how these factors affect the relationship of septal surgery to rhinoplasty. Whether treatment of defects of the external pyramid, of the septum and internal structure of the nose, or of both, is to be undertaken must be determined, as the most important consideration here is the operating time required to accomplish the desired result. It is axiomatic that to obtain the maximum correction of a deviation in the nasal airway, deviations in the external pyramid of the nose must be eventually corrected along with deviations of the septum found internally. Correcting these external deviations is rhinoplasty, and it is inevitable that while the external nose is being replaced in the midline, the patient will be pleased by any supplemental rhinoplastic procedure which will improve the cosmetic defects. Generally, therefore, the surgeon is not going to stop when he has the nasal pyramid in the midline and has dealt with the defects which interfere with breathing. If the nose is a pugilistic type with a saddle, he is going to build up the depression as well as straighten the pyramid. If there is a hump, he will remove it. These procedures take time, and the time consumed is the first factor under consideration.

DURATION OF PROCEDURE.

With adequate and trained nursing help after surgical preparation of the patient, the ordinary rhinoplasty without treatment of septal deflections in most experienced hands requires upwards of one and one-half hours. Surgical procedures dealing with deviations of the upper lateral cartilage, alae and columella are integral parts of rhinoplastic procedure which must be dealt with in every rhinoplasty and, therefore, require no additional time. If the septum is to be operated upon as well, the additional time required will depend upon

the nature of the cartilage to be dealt with as well as the septal defects encountered. Firm, smooth cartilage, no matter how badly deviated, may be dissected free of membrane quickly and easily. When this kind of cartilage is met, minimum time is required. Unfortunately, this situation obtains seldom in the case requiring corrective replacement of the nasal pryamid since a deviating nasal pyramid associated with septal deflections is most often traumatic in origin, and, hence, the cartilage is usually altered in character.

Reduplicated and compartmented septal cartilage is most frequently encountered as a result of nasal fracture; the septum most often has been comminuted. During the process of healing, fibrous invasions between the perichondria on the two sides of fragments of cartilage are formed, thus compartmentalizing the deviating septal cartilages. Frequently, one fragment overrides another and heals in that position. Thus, reduplicated cartilage is found with two pieces of cartilage lying one beside the other in separate fibrous compartments (see Fig. 1).

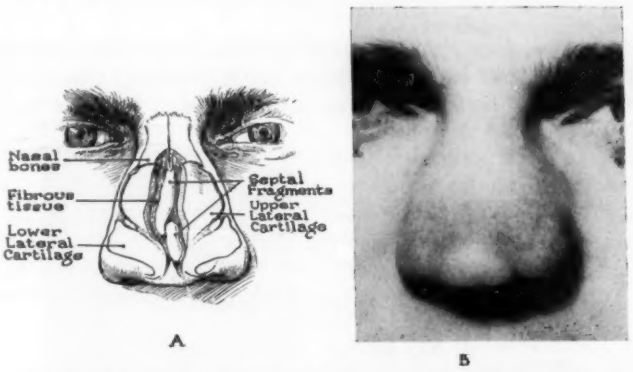


Fig. 1. (A) Schematic drawing, and (B) actual photograph of reduplicated, compartmented septal cartilage resulting from old nasal fracture.

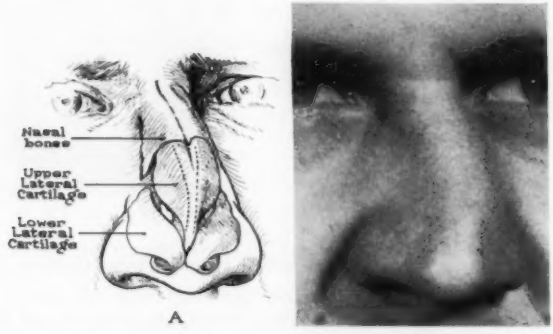
Fibrosis of the cartilage may exist as a result of partial organization of septal hematoma or abscess. Fibrous tissue will invade the cartilage plate itself, rendering the cartilage

mushy, inelastic and difficult to separate from its perichondrium. This process of healing is observed not only in septal cartilage but may be also seen in the thickened skin of the face and in the mushy, soft, thick cartilage of the upper laterals, alae and the cauliflower ears of the old prize fighter (see Fig. 2).

A B

Fig. 2. (A) Drawing taken from actual photograph of pugilist, a veteran of more than 200 professional prize fights; (B) drawing from photomicrograph of upper lateral cartilage taken from the same patient, showing fibrous invasion of cartilage due to organization of hematoma.

A thickened septum sometimes massive in width may exist from fibrosis of septal cartilages due to repeated trauma (see Fig. 3). Subperichondrial hematoma will often form in the



A B

Fig. 3. (A) Schematic drawing, and (B) actual photograph showing tremendous deviation of bony component of nose due to trauma.

angle where the cartilage of the septum joins the upper lateral cartilages. If this hematoma is organized the septum may be a centimeter or more in width at this point, producing a spreading of the upper cartilaginous component of the nose (see Fig. 4).

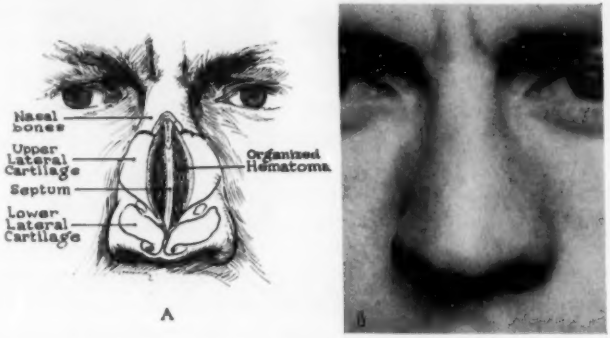


Fig. 4. (A) Schematic drawing, and (B) actual photograph of the spreading effect produced by organized hematoma in the angle between the cartilage of the septum and the upper lateral cartilages.

Congenitally small quadrilateral cartilage may contribute to the problems of the septal procedure. One may repeatedly observe that the individuals with great deviation of the external nasal pryramid, whether due to trauma or to growth factors, have a congenitally small quadrilateral cartilage; therefore, the septum is rigid, being made up primarily of bone which is less able to absorb a blow without fracture and deviation. Finally, the membrane over a sharp deviation is generally atrophic and easily shredded, a condition which may considerably complicate any septal procedure (see Fig. 5).

HOW DO THESE FACTORS AFFECT OPERATING TIME?

Any one or any combination of these situations will enormously increase the operating time required to deal with the septum. The preoperative diagnosis of the existence of these conditions will help in planning the procedure, but complicated submucous elevation under practical conditions will fre-

quently produce shredded or perforated membranes, increasing the already considerable number of incisions which will be required for the rhinoplasty.

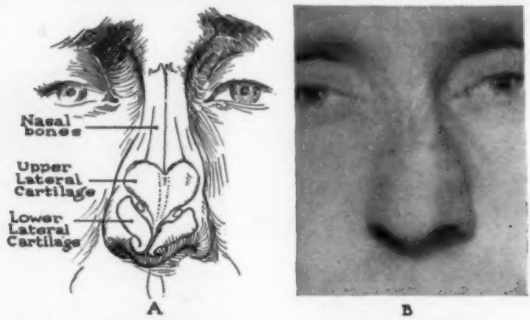


Fig. 5. (A) Schematic drawing, and (B) actual photograph showing the deviation of the lower components of the nose due to congenitally small cartilage of the septum and upper lateral cartilages.

THE ANESTHETIC.

The largest percentage of septal or rhinoplastic procedures are done under local anesthesia with procaine and cocaine block. Properly done, the anesthesia is excellent. With adequate preoperative sedation even the most apprehensive patient is at ease.

In addition to its excellence, this type of anesthesia carries the least danger, the greatest shrinkage of intranasal mucosa for visibility, and the greatest local vasoconstriction. Bleeding is, therefore, minimized; a practical consideration of great importance in the ease with which this work is done, as well as in the final result. Operative oozing wastes a great deal of time devoted to sponging; postoperative oozing and edema separates loosely apposed parts which are meant to heal together. It may be parenthetically added here that procaine solutions routinely supplied in hospital operating rooms vary tremendously in vasoconstrictive properties. The addition of epinephrine is not the only factor involved.

Following infiltration and cocaine block, the anesthesia lasts well for a period of about two hours. Then pain sensi-

tivity and worse, a secondary vasodilatation with oozing increased by manipulation and edema of the intranasal membrane supervene. Reintroduction of anesthesia, whether by infiltration or intranasal nerve block, is grossly unsatisfactory. The anesthesia is imperfect and the vasodilatation and oozing are uncontrolled. In addition, even in the most stoic patient, the preoperative sedation has worn off and supplemental drugs must be given.

Procedures which extend beyond the duration time and vasoconstriction time of the local anesthesia become increasingly unpleasant for the surgeon as well as for the patient. Blood appears in profusion from the slightest incision, obscuring the field; the patient frequently has become restless beyond any sedation short of general anesthesia. Even with the greatest care, he has not been prevented from swallowing some blood with its attendant nausea and vomiting; therefore, duration of the local anesthesia of about two hours limits the time which may be used, unless the surgical procedure is so planned that the administration of the infiltration anesthesia is delayed until after the septal procedure.

CONCEPT FOR PROCEDURE.

In approaching any problem of septal deviation, we consider the portion of the septum ordinarily dealt with in the Killian operation as Part II, which excludes the ventral buttress and the caudal margin of the septum. Our Part I in this discussion is that part which remains untouched in any Killian procedure. Its treatment is to be considered as part of the rhinoplastic procedure (see Fig. 6).

This concept is at variance with that of Fomon *et al.*, who arbitrarily divide the nasal septum into an anterior and posterior compartment by an imaginary line drawn from the frontal spine to the nasal spine. A portion of the septum lying in their anterior compartment is ordinarily treated by the Killian procedure; the remaining portion (our Part I) is intimately exposed during rhinoplasty and may be best dealt with after the nasal skeleton is exposed by the routine incisions of the rhinoplasty.

Fomon *et al.* advocate operation on the septum through an incision made below the free caudal margin of the quadrilateral cartilage. This procedure, while it adequately exposes the caudal free margin for treatment, makes deviations in the posterior part of the nose more difficult to visualize. The division of the septum into anterior and posterior compartments tends to underemphasize the importance of deviations in the posterior portion of the nasal fossa.

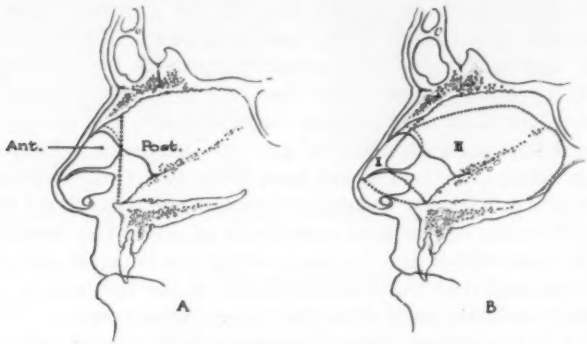


Fig. 6. (A) Procedural concept of the septum after Fomon et al., showing its division into anterior and posterior components. (B) Division of septum into Parts I and II as dealt with in the Killian procedure. Part II is dealt with in all Killian submucous resections. Correction of Part I deformities is dealt with in the subsequent rhinoplastic procedures.

In planning the procedure, details of operative treatment of Part I abnormalities of the septum (see figure) are discussed by Fomon *et al.*, Converse and Becker, and others. These discussions, however, tend to underemphasize: first, treatment of deformities of the posterior part of the septum, and second, the practical technical difficulties discussed in this paper which greatly influence operative time. Fair assessment of the situation before the operation may frequently but not always be made.

The pugilist nose is a particular problem — thick eyelids and maxillary skin, the typical flat, deviated nasal pyramid, a soft, easily depressible nasal tip, a thick, severely deviated nasal septum, all portend great technical difficulty with submucous elevations.

A firm septal cartilage, a firm nasal tip, and a generally thin septum, although badly deviated, usually indicate an easily accomplished submucous elevation of membranes.

INDICATIONS FOR A TWO-STAGE PROCEDURE.

In any case requiring treatment of the septum, as well as the external nasal pyramid, the question arises whether the surgery may best be accomplished in one stage. While in the great majority of instances this situation exists, a two-stage operation, on occasion, may best be done. First, a badly deviated caudal end of the septum; and second, the reduplicated compartmentalized or fibrous septum combined with external deformity of the nose requiring correction should be planned in two stages. In the first stage, a typical Killian submucous resection may be done in which care and adequate time may be devoted to elevation of the membranes.

In approximately one month, the rhinoplastic procedure with routine incisions, sharp dissection, and transfixion of the nose may be undertaken without undue increase in operating time. Defects of the Part I portion of the septum (caudal and ventral portions left by the previous Killian procedure), defects of the upper lateral cartilages and alae may be dealt with. Thus a two-stage operation is done without difficulty.

ONE-STAGE OPERATION.

The one-stage operation may at most times be used. A Killian type of submucous resection is first accomplished, followed by the rhinoplasty, during which time the portions of the septum left by the Killian procedure are dealt with. The patient is placed on the regular operating table in a supine position. Only that anesthesia required for the septum is administered, and the patient is prepared and draped as for rhinoplasty. A typical Killian submucous resection is done. If turbinate plastics or other intranasal procedure is required, it is also done. Then, without changing drapes, the procaine infiltration block for the rhinoplasty is now administered and the rhinoplasty procedure is begun (see Fig. 7).

If the surgeon encounters unexpected difficulty in the Killian procedure, or if the membranes are unduly shredded, he may stop at the end of the Killian procedure, the rhinoplasty being done at a future time. In any case, the infiltration anesthesia for the rhinoplasty is saved for the time it will be needed, thus greatly extending the available operating time.

Fig. 7. Photograph showing the operating position for Killian submucous resection which precedes rhinoplasty in one stage.

Another great advantage of this procedure is that the Killian operation is the best source of stiff, autogenous cartilage for implant in any rhinoplasty in which cartilage remnants of sufficient size or quality will not be produced during the routine operation. If a quick Killian type incision and removal of as much quadrilateral septal cartilage as will be required is done before the rhinoplasty is begun, the best implant material for columellar or lobular defects may be obtained; providing, of course, that previous submucous resection has not been done. There is no argument that autogenous cartilage is far superior to preserved cartilage whenever it is obtainable.

SUMMARY.

When correction of septal deformities is to be combined with surgery of the external nasal pyramid, various practical factors limit the amount of surgery that can be done at one stage. These are the duration and vasoconstrictive time of the local anesthetic, as well as alterations of the nasal and septal cartilages due to the healing processes following trauma. Reduplicated, compartmentalized, fibrotic or thickened cartilages frequently complicate the ease with which the septal procedures are accomplished.

In order to extend the anesthesia time, infiltration block of the nose is withheld until after a classical Killian type submucous resection is done. Any remaining defects of the septum left uncorrected (in the ventral buttress and caudal end of the septum) are treated after routine exposure by the classical incisions of the rhinoplasty.

The indications for a one-stage and two-stage operation are discussed.

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RECENT WORK IN VIRUS DISEASES.*†

C. E. VAN ROOYEN, M.D. (by invitation),
Toronto, Canada.

Although the field of virus infections may appear to be far removed from the subject of otolaryngology, a number of recent developments have occurred, which I trust may be of some interest to many of you.

Viruses are now considered to be a group of infective agents which have become adapted to intracellular parasitism through a lengthy process of retrograde evolution. With increasing adaptation to the invaded host cell, there has been corresponding dependence upon the host cell for essential growth substance with simultaneous loss of function and progressive decrease in size.

Thus the largest viruses such as vaccinia and psittacosis presumably retain some slight degree of independent metabolic activity, whereas the smallest ones such as that of poliomyelitis seem to be completely dependent upon the cell for continued multiplication. The relationship between virus and host cell is somewhat analogous to what I visualize may be the ultimate outcome of man's continued survival in the environment of a highly socialized state. Thus as the latter provides man with ever increasing amounts of the various necessities for life, man in turn will suffer progressive loss of natural functions through disuse atrophy of various organs.

Finally I perceive that he may degenerate into a virus-like parasite upon the nutrient state and, like the viruses, will retain only the power of reproduction by special permission.

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†From the School of Hygiene, University of Toronto, Canada.

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The intimate relationship between virus and host cell also brings with it more practical problems of immediate concern to surgical and medical practice.

We still lack effective and potent antiviral substances for therapeutic use. Little is known, as to in which class or category of chemical compound, the search for antiviral agents should be directed. The close relationship between viruses and host cell also restricts greatly the range of available compounds from which potential antiviral agents may be selected for laboratory tests.

Many thousands of substances have already been examined for antiviral activity, but the results have generally been disappointing; so, for the present, the problem appears to be insoluble.

Virus affections of the upper and lower respiratory passages probably claim first place of importance in view of their frequency and high incidence in the conduct of medical practice.

Over the past decade considerable progress has been accomplished in the better understanding of this group. This has resulted in part from our ability to eliminate primary bacterial infection with the aid of antibiotics and, in part, from the development of newer methods for the cultural isolation and serological identification of viral agents. The control of secondary pyogenic complications may also have changed the picture. Thus, it is noteworthy that since the inception of antibacterial remedies, despite conditions caused by late war and overcrowding in large cities, there has been no recurrence of pandemic influenza comparable in scale or severity to that which scourged Europe in the years 1914-1919.

Whether or not influenza of the latter variety would ever return, it is impossible to predict, but within the last few consecutive years annual outbreaks of epidemic influenza in Europe, Great Britain, Canada and the U. S. A. have been shown to be caused by influenza virus of the A-prime type. By the use of egg cultivation techniques and serological meth-

ods it is now possible to identify speedily the epidemic influenza virus; likewise, the ability of influenza virus to grow in the embryonated egg has opened the path for trial of prophylactic immunization.

Work continues on the common cold; relatively little has been contributed since the condition was originally proved to be a virus disease by Dochez *et al.* (1930), who successfully infected man and chimpanzee with filtered material. No laboratory animal has as yet been found to be susceptible to infection with the common cold virus.

A few workers, however, have been able to pass the agent in chick embryo material tissue cultures, *e.g.*, Dochez *et al.* (1936), Powell and Clowes (1931). The virus has also been propagated in the allantoic sac of egg embryos by Pollard and Caplovitz (1948) and Topping and Atlas (1947). Unfortunately, the common cold virus grows with difficulty only in the egg embryo, and it has not been possible to put these findings to practical use. More recently some disappointing human transmission experiments have been reported from England by Andrewes *et al.* (1951). The reseaches of the latter have contributed nothing new, but the data does reveal the erratic results which may be expected when strains of virus isolated in Great Britain are tested for pathogenicity in human volunteers obtained from the same country. Andrewes' efforts also reveal the need for better design and more statistical direction in the planning of such experiments. Simultaneously with the studies already mentioned on influenza and the common cold, Dingle and co-workers of the U. S. Commission on Respiratory Diseases have strived to unravel the clinical tangle of the numerous common, but ill-defined, varieties of malady prone to affect the respiratory tract.

Thus on the basis of clinical symptomatology epidemiological characteristics, and the outcome of infection immunity experiments on human volunteers, Dingle has postulated the existence of a spectrum of common respiratory diseases. These comprise a series of closely related clinical entities ranging from afebrile common cold to febrile atypical pneu-

monia. Intermediate between which lie such states as nasopharyngitis, laryngitis exudative tonsillitis and pharyngitis, acute respiratory disease or grip, and bronchitis. The separation and identification of these diseases presents a problem of exceptional difficulty since the clinical features of one disease may not infrequently merge into those of another. In the absence of susceptible animals and better tools for the recognition of specific viral infections, progress must necessarily be slow.

There has been revival of interest in the condition of herpangina described by Zahorsky in 1920, following the studies of Heubner *et al* (1951). The latter investigated an outbreak of this condition in Maryland during the Summer of 1950, characterized by illness of short duration, accompanied by sore throat, headache, abdominal pain and large faucial ulcers.

From such cases, Heubner *et al.* (1951) successfully isolated Coxsackie viruses of the Group A; Dalldorf Type 2 and High Point Texas Type. From their studies, Huebner concludes that herpangina constitutes the main clinical manifestation of human infection with the Coxsackie Group A viruses. I would suggest that the study of herpangina merits your careful attention, and in every suspected case, an effort should be made to isolate Coxsackie virus by the customary laboratory procedures.

Procedures said to cause predisposition to poliomyelitis infection have attracted wide attention over the past three years. According to Australian sources, McCloskey (1950) observed that of 340 cases of poliomyelitis observed by him, 31 cases had received an injection of diphtheria toxoid or pertusis vaccine, alone or in combination, within three months of the onset of their symptoms; furthermore, in 17 of them under three years of age, who had been inoculated 35 days previously, the severity of paralysis was much greater in the affected limb than in a comparable group of inoculated children. In a further series of 410 patients studied by Hill and Knowelden (1950), in England, it was also shown that in recently inoculated children the limb of injection (arm or

leg) was a site of paralysis much more frequently than was the case with children not recently inoculated. These effects appear to be confined to injections given within about a month of the onset of poliomyelitis, and after that interval from inoculation has elapsed no risk need be envisaged.

It would thus appear that the act of inoculating children already presumably suffering from the subclinical and non-paralytic disease may have induced the same to develop paralysis.

Hill and Knowelden (1950) point out, however, that it is difficult to ascertain the relative risks of contracting poliomyelitis among two groups of children, the one inoculated and the other not, without recourse to laborious statistical investigation.

The latter aspect of the problem has received the attention of Korns *et al.* (1952), in New York State, who determined that the risk of developing poliomyelitis among a normal assembly of children studied was approximately one in 4,000, as against one in 2,000 for a comparable group of children who had received inoculation of different substances for a variety of reasons, including minor surgical procedures, tissue infiltration for local anesthesia and injection of antibiotics. So slight is this difference that, in the words of Korns and co-workers in pointing to a doubling of the poliomyelitis attack rate during the month following an injection, we could be accused merely of doubling the weight of a feather.

The findings of the U. S. Public Health Service (see *Jour. A. M. A.*, 149:170, 1952) have concluded with the statement that there is no definite evidence that an increase in the number of cases of poliomyelitis has occurred as a result of injections of vaccine, drugs or other medicinal agents. There is evidence that injections for the prevention of diphtheria, whooping cough and possibly tetanus when given during an epidemic of poliomyelitis may on rare occasions localize the paralysis in the inoculated arm or leg. Also of special interest is the statement that "poliomyelitis is at all times so rare in infants under six months of age and the danger from other

infectious diseases, particularly whooping cough, is so great that it is advisable to continue the immunization procedures for this age group even during a poliomyeitis epidemic; however, in view of the slight risks entailed, it has been recommended by Greenberg *et al.* (1952) that routine immunizations may well be suspended in older children, during the poliomyelitis season and in epidemic years, the suspension might be extended to infants between six months and one year of age. Therapeutic and immediate prophylactic injections should not be discontinued at any time. Although no specific recommendations have been proposed in regard to the risk attending tonsillectomy, it is probable that the same general principle may well be observed.

Turning to recent developments in the field of comparative medicine, I should like to refer to a disease of unknown etiology, and considered by some to be if viral origin, namely, atrophic rhinitis of swine. The disease has also been termed dystrophic rhinitis, rhinitis atropica deformans, sniffles, bull nose and sneezing disease of swine. It is prevalent over a wide area of the North American continent, and numerous outbreaks have been reported from Alberta, Ontario and Indiana State, where its presence constitutes a serious problem to the hog raising industry.

In young suckling pigs the condition commences with sneezing, mucoid nasal discharge and epistaxis. Inflammation of the Schneiderian membrane occurs, and the pig persistently rubs his snout into the ground. With the progress of growth the animal develops deformity of the nose which may be deflected from the median line to either side or upwards. Distortion of the nose causes interference with mastication due to failure of the upper and lower jaws to engage properly. Interference with feeding in turn leads to retardation of growth and, whereas the best Wiltshire sides of bacon are produced from pigs of 200 pounds weight at an age of four months, pigs infected with rhinitis take 10 months or more to attain a similar weight of 200 pounds.

The essential pathological lesions of the disease are destruction of the nasal turbinate bones and erosion of the bony

palate. Little else is known of the sequence of events, or the mechanism whereby the distortion is produced, or the nature of the infecting agent. Experimental work suggests that the condition can be transmitted from an infected sow to her litter and that the incubation period is about 30 days [see Quin (1951) and Doyle (1951)].

Another possible virus disease affecting the upper respiratory passages of animals is the condition known as infectious sinusitis or swell head of turkeys.

Inflammation of the living membrane of the infraorbital sinuses is produced with attendant accumulation of serogelatinous exudate and distension of the sinuses. Circumorbital edema swelling of the neck and obstruction to breathing from closure of the palative opening may cause death of the turkey. Recent work suggests that the causal agent may be cultivated in the embryonated egg and the disease reproduced with infected material. There is some doubt whether the causal agent may be classified as a virus or as a minute rickettsia-like organism [see Jerstad *et al.* (1950) and Grumbles and Boney (1951)].

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FIFTIETH CONGRES FRANCAIS d'OTO-RHINO-LARYNGOLOGIE.

The Fiftieth Congrès Francais d'Oto-Rhino-Laryngologie will be held in Paris in the Grand Amphithéâtre de la Maison de la Chimie, 28 rue Saint Dominique, Oct. 13-16, 1952, under the presidency of Mr. le Prof. Portmann, of Bordeaux, and Honorary President André Marie, Ministre de l'Education Nationale. For further information, write to Dr. H. Flurin, Secretary-General, 19 Avenue MacMahon, Paris 17^{e}, France.

SOCIALIZED MEDICINE IN ENGLAND.*

R. SCOTT STEVENSON, M.D., F.R.C.S. (by invitation),
London, England.

I feel greatly honored to have been invited to be the "guest speaker" of the American Laryngological, Rhinological and Otological Society and your President has asked me to address you on the subject of "Socialized Medicine in England." What I shall endeavor to do today is to give you the facts about the situation in which we find ourselves, describe how it came about, and suggest how perhaps it may be avoided elsewhere.

We, in Britain, were by no means the first European country to experience the system that has been termed "socialized medicine." It was Bismarck, the Iron Chancellor, who invented state insurance against sickness, and he did it as a bulwark against Socialism. In 1881, he first introduced a measure providing for compulsory sickness insurance, which was subjected to much criticism, but was eventually carried—against the Socialists and the Radicals—in 1883. Here are the words of Bismarck (May 9, 1884): "Give the working man the right to work as long as he is healthy, assure him care when he is sick, assure him maintenance when he is old. If you do that and do not fear the sacrifice, or cry out at State Socialism, then I believe that the gentlemen of the Social-Democratic Party will sound their bird calls in vain." The Danish sickness insurance was instituted in 1892 as a voluntary plan under the control of the medical profession, and within 20 years 70 per cent of the population came under the system. Other countries followed Germany and Denmark, and today most European countries have some form of State medical service.

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In Britain, modern health legislation dates from the Health Acts of 1848 and 1875 in the reign of Queen Victoria. Much progress was made in the amelioration of social conditions during the last two decades of the nineteenth century, but this was due to the efforts of private individuals, not of Parliament. The historic Liberal Party, after many years in the wilderness, came into power with a great majority in 1906 and its members had an urge to improve everything and everybody. The Report of the Royal Commission on the Poor Law in 1909 showed that the medical care of the population was inadequate and that much poverty was due to ill-health. Mr. Lloyd George visited Germany in 1907 and came home much impressed by the German system of State sickness insurance. He introduced his National Insurance Bill in 1911, intending to carry out the administration of the scheme through the Friendly Societies and to place the doctors under their control; but the doctors in the British Medical Association put up such a determined opposition to this that special "Insurance Committees" were formed to deal with medical administration, and upon them the doctors had due representation. This Insurance Scheme, paid for partly by weekly contributions and from the State, covered only workers and not workmen's wives and children, so that more than half the population in the lower income groups were not insured; but from the doctor's point of view did at least stop the ignominious canvassing by doctors of Friendly Society or Club officials for medical appointments at paltry fees, for the sake of the introduction to family practice, and the new Act gave financial security to doctors in industrial districts such as they had never known before. In spite of criticisms, it continued on the same lines up to the outbreak of World War II.

The outbreak of war in 1939 helped to integrate the working of the voluntary and the "local authority" or municipal hospitals. The Ministry of Health had made a survey of hospital accommodation throughout England at the time of the Munich crisis, and an Emergency Medical Service was organized by the Ministry primarily to deal with air-raid

casualties, 290,000 beds being provided chiefly in municipal hospitals, fever hospitals and mental hospitals, and only 40,000 of the beds in new hospitals, the staffs being taken from the honorary and resident staffs of the voluntary hospitals.

A rather naive letter was published in December, 1939, in the supplement of the *British Medical Journal*, ii:231, 1939, signed by the three Presidents of the Royal Colleges of Physicians, Surgeons and Obstetricians, and read as follows: "There is a suspicion amongst some doctors that the Ministry of Health may be proposing to use the E.M.S. as the thin edge of the wedge for a postwar State Medical Service. We can assure such, on the highest authority, that nothing is further from the Ministry's intention and that all such fears are groundless. It may well be, of course, that after the war economic conditions may make necessary some form of assistance to the voluntary hospitals, by grants-in-aid or otherwise, but that the voluntary system will continue there is no reason to doubt."

The three Presidents innocently assumed that the same Minister of Health and, indeed, the same Government, would be in office when the war was over and forgot that the promise of a Minister is not necessarily binding upon his successor. In actual fact the Emergency Medical Service did serve as the prototype of the National Health Service in existence today. The urge towards a State Medical Service undoubtedly came from the medical permanent civil servants at the Ministry of Health, all of whom had been local authority public health officials and were a little conscious of their own honesty, altruism and rectitude. In their eyes — to modify the words of Lord Horder — the full-time salaried doctor worked for God and the private doctor for Mammon.

During the war years the "planners" moved slowly. In May, 1940, the then Minister of Health (Mr. Walter Elliot), in answer to a question in Parliament, said that he did not think the present time opportune for the consideration of a State Medical Service. In January, 1941, the British Medical Association set up a Medical Planning Commission, with the

cooperation of the Royal Colleges and other representative medical bodies, its terms of reference being "to study wartime developments and their effects on the country's medical services, both present and future."

The whole atmosphere was changed by the publication of the Beveridge Plan in December, 1942. Sir William Beveridge (as he was then) acted as chairman of an interdepartmental committee "set up to survey the whole field of existing national schemes of social insurance and allied services, including workmen's compensation," and the famous "Report on Social Insurance and Allied Services" was signed by him alone. The ideal plan, in his view, for a health service was one providing full preventive and curative treatment of every kind for every citizen without exceptions, without income limit, and without an economic barrier at any point to delay recourse to it. The report contained the cool remark: "The possible scope of private general practice will be so restricted that it may not appear worthwhile to preserve it."

It must be remembered that this happened during a critical period of the last war. We in Britain — 50 millions of us, on an island smaller than the states of New York and Pennsylvania put together — were experiencing the instincts of the herd, living together as one people, rich and poor, employers and work-people, soldiers and civilians, in air-raid shelters and in bombed houses, in a way that we had never done before. Do not forget that the very first action of Mr. Churchill's Coalition Government, on May 22, 1940, was to pass the Emergency Powers Act, through all its stages, in both Houses of Parliament, in one day. By this Act the Government was given complete control over persons and property — not just some persons in some particular class of the community, but all persons, men or women; and control did not end with industrial business but was extended to finance and banks, though in actual fact the Government never did interfere with property as such; but it was in this sort of atmosphere and in such conditions that the Beveridge Report appeared, and it

swayed the entire nation — even a Representative Meeting of the British Medical Association accepted it with enthusiasm and promised that the medical profession would do its part.

In 1943, the Coalition Minister of Health, the Liberal National, Mr. Ernest Brown, put forward proposals for a comprehensive medical service based on the employment of doctors as salaried officers, mainly full-time, by a new type of local authority. The B.M.A. thereupon met the Minister and made it very plain to him that his proposals were contrary to the public interest and unacceptable to the great majority of the medical profession. The Minister agreed to regard his proposals as "in the discard," and shortly afterwards was transferred to another department.

The next scheme got as far as a Parliamentary "White Paper" in charge of Mr. Willink, the Conservative successor to Mr. Brown as Minister of Health in the Coalition, and one of his suggestions was to place all the hospitals — voluntary (including teaching) and municipal, in the different parts of the country, under the control of enlarged local authorities. With the dissolution of Parliament and the result of the General Election of 1945, Mr. Willink's affable but inconclusive discussions naturally came to nothing.

Mr. Aneurin Bevan bcame Minister of Health in the new Socialist Government and at once introduced his National Health Service Bill. It was opposed by the British Medical Association, but the leadership of the Associaton was divided, and its thinking was muddled. The British Medical Association, after some discussion, accepted that the whole of the population — and not 90 or 95 per cent, as has been argued — should come into the scheme, and chose to fight mainly on the retention of the buying and selling of the goodwill of medical practices — although Mr. Willink and the Conservative Party (as well as Mr. Bevan and the Socialists) had already pronounced against this. Then Mr. Bevan persuaded his Government to set aside a fund of £66,000,000 (about $200,000,000)* as compensation for the existing medical practices —

*I have translated pounds into dollars at about their real value, not the exchange value of 2.80 dollars to the pound.

providing the doctors came into the scheme on the "appointed day" (July 5, 1948), on which the old National Insurance Scheme would end. The general practitioners were to work under Local Executive Councils in the different areas — not directly under the Ministry of Health, managing thus to avoid becoming "civil servants," which was universally unpopular.

The whole structure of general practice was to be based upon the provision of some 2,000 health centers. The idea of health centers came from Lord Dawson's report in 1920, and was elaborated in the British Medical Association Medical Planning Commission's "draft interim report" of 1942, which was mainly the work of Prof. Picken, of Cardiff, and Dr. Charles Hill, both of them highly intelligent doctors but former public health officials and inescapably imbued with the health official's outlook. The doctors, to my mind, rather rashly accepted this suggestion, because they thought it would take their patients away from their homes, free their wives from duties connected with their practices (85 per cent of doctors' wives, it has been calculated, have such duties), provide them with secretarial and technical help, provide a rota of colleagues for off-duty periods, and possibly provide X-ray and laboratory facilities. But "health centers" have proved a pipe-dream, mainly due to building and financial restrictions. One pilot center is being built in London, at an estimated cost of £186,000 (call it half-a-million dollars), so one can only guess when a second one will be built.

Mr. Aneurin Bevan was determined somehow or other to get his scheme going, even at the cost of throwing overboard a good many Socialist principles and in the teeth of many members of his own party. In contrast to the studied discourtesy with which he met the representatives of the general practitioners, he was always most polite to the representatives of the specialists. The Socialists, and particularly those who had had experience of local government hospitals and the small but extremely vocal Socialist Medical Association, were wedded to the idea of full-time specialists in hospitals. Mr. Bevan knew that there was no hope of achieving this and quite cynically threw this Socialist principle overboard—"You

do not pick the fruit until it is ripe," he said. He invited Lord Webb-Johnson, the President of the Royal College of Surgeons, to state what the consulting surgeons wanted, if they were going to take part in the State Scheme. Part-time appointments with continuance of private practice, autonomy for the teaching hospitals and no sequestration of their endowment funds, and the continuance of the use of private beds in hospital for fee-paying patients, were the terms that Lord Webb-Johnson demanded — looking at things, as indeed was probably his duty, entirely from the viewpoint of his colleagues, the senior surgeons on the staffs of the teaching hospitals. "You can have all of these," answered Mr. Bevan, "but I shall have to put a ceiling of charges for private patients in hospital." "But many of us get patients from abroad," retorted Lord Webb-Johnson, "I'm a dollar-earner. Why should I put a fixed ceiling to such patients?" "All right," said Mr. Bevan, "then we'll allow 15 per cent of the private beds to have no ceiling charges." Mr. Bevan himself once told me that he asked Lord Webb-Johnson if there was anything else he wanted for his consultants, and there was nothing he could think of—though he might well have remembered that there were hundreds of surgeons and other specialists besides those on the staffs of the London teaching hospitals. One thing he might have asked for, but did not, was the statutory recognition of medical committees in hospitals; medical staff committees do, indeed, exist, but there is no statutory provision for them and their function is entirely advisory — many hospital management committees pay no attention whatever to the advice they give and they might as well never meet.

Mr. Bevan's National Health Service Act was passed in 1946, but was not to come into force until July 5, 1948. Among the doctors feeling still ran high, after the Act had been passed, against taking part in the Service, and this feeling was not assauged by the Minister's rather truculent attitude. He had had a good deal of success in his attempt to split the medical profession in two, and the three Presidents of the Royal Colleges — one of whom was actually Vice-

Chairman of the British Medical Association Negotiating Committee — took it upon themselves to address a friendly letter to the Minister, asking for the elucidation of some minor points, which elicited a polite reply from him, but undoubtedly helped to widen the split with the general practitioners. An important plebiscite of the doctors was held in February, 1948, when 38,534 doctors (or 90 per cent of those voting) voted against taking service under the Act, and only 3,471 voted for taking service under the Act. While the plebiscite was being held, Mr. Bevan tried to intimidate the doctors by making a violent attack on them in the House of Commons, using such phrases as "the small body of raucous-voiced people who were alleged to represent the medical profession as a whole" . . . "a squalid political conspiracy." . . . "The Government took serious exception to organized sabotage of an Act of Parliament."

Then came the anticlimax. The leaders of the British Medical Association had achieved a great victory, but did not know what to do with it. A "fighting fund" was started, but proved disappointing, for only some 6,000 doctors contributed to it— I, myself, was not one of them: I offered to contribute if someone would kindly tell me what the British Medical Association's policy was to be; but nobody could. Then information began to dribble in from the branches and "divisions" of the British Medical Association up and down the country; the secretaries were not quite sure that all their members were solid behind them. What was going to happen when the National Insurance "panel" income ended and they had refused service under the new scheme? And what about the prospective loss of compensation for their practices if they stayed out? Meanwhile the leaders of the British Medical Association sat back and did nothing, while it was only too evident that the leaders of the Royal Colleges of Physicians and Surgeons had come round behind the Government. Then Mr. Bevan, in April, made a conciliatory speech, promising an amending Act to make impossible the introduction of a whole-time salaried service by regulation under the present Act, and also to regularize the position of partnerships; so

the British Medical Association held another plebiscite in May, with the result that 12,799 doctors were then in favor of accepting service, and 13,891 were against, 48 per cent to 52 per cent. The fight was over,

The reasons for this collapse—when victory had been within the grasp of the British Medical Association — make an interesting if depressing study. It contrasts sadly with the victorious fight put up by the British Medical Association in Australia with a Socialist Government there, though the first round was won through Australia — unlike Britain — having a written constitution: The British Medical Association appealed to the High Court and obtained a judgment that the Act passed by the Socialist Government was unconstitutional. Our British Medical Association in Britain is almost too democratic in its structure; its decisions have to be made by an unwieldy Representative Body of some 400 doctors brought together from all parts of the country, and the Executive Council merely carries out its instructions. Such an organization is suited to a policy of *laissez faire* and not of quick decisions. In spite of having formed various representative committees, the British Medical Association weakly allowed Mr. Bevan to negotiate direct with the Presidents of the Royal Colleges in regard to the specialists, and I have personal knowledge that some of the British Medical Association leaders were less than half-hearted in their opposition to a State service. Its public relations work was childish—it never even tried to get the voters, the doctors' patients, on its side, and it managed to antagonize the entire press of our country.

In contrast, the Australian British Medical Association was backed by the voters, for, during the election at which its Socialist Government was defeated, over 500 family doctors broadcast daily throughout Australia for five weeks, putting the case for the British Medical Association and getting the voters on the side of the doctors. The new Australian Government adopted the principle of encouraging voluntary health insurance, using Government funds to amplify the cover against sickness provided by approved insurance organizations, but with special aid to the minority who could not

meet the cost of adequate medical care. The Government provides all "life-saving" drugs free (such as the antibiotics, sulfa drugs, insulin, serums, including proprietaries), as decided by the British Medical Association Federal Committee. Tuberculous patients and pensioners and their dependents have special arrangements. But "socialized medicine" as such has been effectively defeated in Australia.

I call myself a democrat (with a small "d") but when I look around me, at home, I am sometimes a little shocked to find myself wondering about the intrinsic merit of democracy — the counting of millions of heads as the means of governing a country. In Britain we have universal suffrage, for everyone over the age of 21, and the elected House of Commons is supreme. Other countries, such as the United States, have wisely adopted the separation of powers and have checks to prevent the abuse of power by the elected chamber. But we have no written constitution, and there is no possible appeal from the vote of the Lower House, no appeal to the Supreme Court, that barrier to the encroachment of power that the founding fathers of the United States put to the vagaries of a democratically elected chamber or, indeed, of a president. In theory, we have the brake of the House of Lords as a revising chamber and also the royal prerogative of the monarch, but it is a long time since a constitutional monarch (who acts solely on the advice of his or her Ministers) exercised a veto, and the House of Lords has become a retarding (for one year) instead of a revising chamber, though its debates often reach an infinitely higher standard than those of the House of Commons, and still influence public opinion. The House of Commons, freely elected for five years, has, therefore, become supreme in our country, and there is no check to prevent its committing the most flagrant abuses, except the threat of a general election. When the National Health Service Act had been passed by the Socialist Government the doctors' plebiscite against taking part in the Service received no support from any of the political parties, Socialist, Conservative or Liberal, or from the press — even *The Times* called the British Medical Association policy "emotional" and

sneered at "the views of a score of elderly doctors"; public opinion was against the doctors, and many responsible persons believed the doctors' continued opposition to the Act to be illegal. Mr. Frank Byers, one of the Liberal leaders, said in the House of Commons in February, 1948: "Much of the propaganda of the British Medical Association was a direct challenge to the Act, and members of Parliament must resist that."

The hospitals had been taken over by the State and (except for the teaching hospitals) their funds had been confiscated, the income from the National Insurance "panel," on which 19,000 family doctors largely depended, was to end on July 4, 1948, the buying and selling of practices was to cease, and the economic position of the country was such that private practice in medicine was rapidly shrinking. All political parties were ready to give the State control over the individual freedom of the doctors. Was it any wonder that opinion in the medical profession was divided? When we attempt to apportion the blame for acceptance of a system of "socialized medicine" by the doctors in England, let us not forget the political atmosphere in which we found ourselves and the fact that we as a nation had just emerged from six years of total warfare.

SOCIALIZED MEDICINE AND THE FAMILY DOCTOR.

Today in England and Wales (for Scotland comes under a separate Government Department), 20,859 general practitioners are working in the National Health Service, 17,717 of them "principals," so that there are 3,142 assistants or "unestablished practitioners." Out of the Health Service altogether there are approximately 1,000 general practitioners — it is apparently difficult to find out the exact number, but that is the figure given me by the Secretary of the British Medical Association. About one-half of the established general practitioners are in partnership, for partnerships were a very noticeable development under National Health Insurance and they are still permitted. The doctors work, not directly under the Ministry of Health, but under the general direction of 138

Local Executive Councils of 25 members each, seven of them doctors, three dentists and two pharmacists, the others partly nominated by the Minister and partly by the local health authority. This set-up is much as it was under the old National Insurance scheme and, indeed, it took over the old Insurance lay staffs and offices; but it is unfortunate that there is little or no liaison between these Local Executive Councils and the Regional Hospital Boards.

A general practitioner is allowed a maximum of 4,000 names on his list of patients; if he has an assistant he is allowed an additional 2,400.* It has been calculated that one-eighth of the doctors in general practice have lists of 4,000, and the average is 2,500 in town and 1,500 in the country, where extra mileage payments are made; in addition, there is a varying but small and diminishing number of private patients. There is no doubt that a good many of the doctors with large lists are struggling to cope with more patients than they can tackle properly, usually because of their financial commitments. A recent careful investigation of the work of general practitioners — as unbiased as any such investigation can be — showed, however, that only about 5 per cent of the doctors "required to revise their methods," and I venture to suggest that this proportion would not be bettered in any part of the world and, indeed, in any type of professional work.

The conditions of medical practice are, however, more weighted than ever in favor of the well-established doctor. The doctors are paid by a capitation fee for each patient on their list, a method inherited from the old National Insurance system and, indeed, before that, from the old "clubs"; whatever may be said about it, it is at least a method with which almost every doctor appears to be content, though the actual amount of the capitation fee is argued about and also whether the first thousand or so on a list should not be paid at a higher rate than subsequent thousands. This money is paid into a pool, separate pools for different areas, and then divided among the doctors doing the work in the area. Today, includ-

*These figures have since been modified to 3,500 and 2,000, respectively.

ing the recent arbitration award, it works out at approximately £1 per head, so that a doctor with the average 2,500 list earns £2,500 gross (call it $7,500 to $10,000), out of which he has to meet his professional expenses, which have been officially calculated at an average of 38.7 per cent; there is, in addition, a contributory pension and disability scheme. Naturally, the doctors in general practice are inclined to resent any new doctor coming into the area and so diminishing the share-out; also, a doctor who has an assistant makes rather more extra out of the pool than he pays the assistant, and he is disinclined to make the assistant a partner, for he reaps no benefit and decreases his own income. The attitude of leading doctors in British Medical Association circles with large lists of patients and that of "unestablished" assistants with rather bleak futures before them will naturally be understood to be somewhat different in their approach to this subject. Doctors with small practices and beginners in practice may be helped with a small basic payment — they avoid calling it a salary payment, and some 2,000 of them are actually receiving this.

In order to obtain as accurate information as possible and to correct any preconceived ideas that I might possess, I sent out a questionnaire to a large number of general practitioners with whom I or my friends were acquainted, in different parts of the country and with very different types of practice, and I received some 60 answers, many of them accompanied by candid and sometimes pungent letters. In addition, I had access to confidential reports on a very thorough first-hand investigation of the conditions of general practice since the inauguration of the National Health Act, which I am unable to quote in detail but which were certainly enlightening and sometimes surprising. For the past three months, in view of this paper, I have also cross-questioned patients and friends about their relations with their family doctors.

The first question I asked the doctors was whether there was any change noticed in the doctor-patient relationship since the National Health Service began; in reply, only one-third of the doctors considered that it *had* deteriorated,

though 3 per cent of the doctors considered that patients looked upon them as a sort of official, and some 25 per cent were of opinion that patients were inclined to look upon them as suppliers of medicines rather than medical advisers. Some of my correspondents added amusing stories to this, such a the complete stranger who waved a "temporary visitor's" card at the doctor and demanded a 16-ounce bottle of liquid paraffin and 100 veracolate tablets "and you spell it *Veracolate!*"

Then I asked whether private practice had been affected for the worse by the National Health Service, and the answer in every single case was that it had. There were some interesting comments on this question. In a certain country town, not far from London, I made inquiries from two partnerships each of three doctors: in one partnership only 1 per cent of the work was now private practice, while in the other, 20 per cent of the work was still private practice. The latter was exceptional and was accounted for, I think, by the senior partner being a doctor very highly respected and well-known in the district. In 50 per cent of the practices, not only in industrial areas but in suburban districts, the doctors have entirely given up private practice as being more trouble than it was worth, for it had almost entirely disappeared in any case.

I next inquired whether there was any bureaucratic interference with the doctor's work; except in one instance, the universal reply was that there was no interference or certainly no serious interference. The one doctor who was an exception complained of interference and "direction" in regard to his methods of treatment; but I know him to have rather original ideas regarding treatment and I imagine that the fault — such as it was — was not all on one side.

Ninety-eight per cent of the doctors questioned stated that patients came to them with trivial complaints more often than before the National Health Service. All the doctors stated that attendances at the surgery (the office) had increased, often to a very great extent; 75 per cent of the doctors statel that visits to the patients had decreased, but a few expressed

strong views to the contrary. One doctor told me the story of his being requested to call upon a certain lady before noon one day, as she had to take her dog to the vet. that afternoon!

I had the temerity to ask all the general practitioners to whom I wrote whether they were better or worse off financially since the National Health Service began; the great majority answered that their financial position was much about the same as before the Health Service, though some of the older doctors were worse off. I have received further information through official sources, from which it appears that in actual fact one-third of the doctors in general practice had been hard hit financially, until the recent arbitration award by Mr. Justice Danckwerts, who decided that nearly an additional £10,000,000 annually (under the terms of the Spens Committee report) should have been paid to the general practitioners since the inauguration of the National Health Service.

The majority of the doctors grumble about the number of certificates required by their patients, though many of them admit that this nuisance is diminishing gradually; an official estimate is that one-third of the doctors are really strict about certification, one-third kind rather than strict, and one-third distinctly casual about it, the last section chiefly busy doctors with maximum lists of patients. About 25 per cent of the doctors stated that they worried about the administrative side of carrying on practice — certification, filling up cards and returns, etc.

Few doctors in general practice in towns now do minor surgery, though in the country over 60 per cent of them still do it, as indeed is to be expected. I encountered one doctor in the country, however, who sent all his patients requiring such minor surgery as the opening of a finger abscess 12 miles away to the nearest hospital.

Most doctors on coming across an ear, nose or throat case now send it off without any more ado to a hospital for attention — and at a recent discussion on otolaryngological problems in general practice at the Royal Society of Medicine in

London it was calculated, authoritatively, that from 33 to 40 per cent of patients in general practice had something wrong with their ears, nose or throat. I must say that I now find many cases of wax in the ears among my hospital outpatients — but I refrain from grumbling when I recollect the disastrous results I have seen in my time from "pot-shots" at syringing ears.

Fifty per cent of the doctors in general practice have complaints to make about the hospital services, which they affirm have deteriorated — from their point of view — since the National Health Service. Most hospital outpatient departments now have an appointment system — but the average wait for a consultation is three weeks, and may be six weeks, unless the case is really urgent. The nonurgent inpatient case has an average wait, for admission for operation, of about six months or more, say the general practitioners; orthopedic cases have the longest wait, but ear, nose and throat cases are a good second, and in particular the waiting-list for children's tonsil and adenoid cases has become almost a national joke, for, in many hospitals — though not all, for in some districts tonsil and adenoid operations are now being done at outlying hospitals — it is as long as two years. In London, the Emergency Bed Service, a bureau which keeps contact with all hospitals, has an achievement of getting nearly 90 per cent of emergency cases admitted to some hospital somewhere in London. Aged and infirm patients are a particular difficulty, for the old Poor Law Infirmaries, which admitted them freely, have been turned into general hospitals with only a comparatively few beds for the infirm; tuberculous patients have nearly all to wait many weary months for a bed in hospital.

A complaint of many general practitioners is that they are shut out of the hositals, but when they are cross-examined more precisely there is no general agreement about what they want, though a good many of the junior doctors would like to have paid clinical assistantships in the larger hospitals. Many small "cottage" hospitals, formerly staffed by general practitioners, now have consulting surgeons and physicians attached to them — though some of them are the same men

who were the general practitioners, and a number of general practitioners resent in particular being debarred nowadays from giving anesthetics, in favor of rather junior specialist anesthetists.

The hospital difficulties, from the general practitioners' viewpoint, are attributable partly to their sending many more patients to hospital for specialists' opinion or treatment, to an increased demand for hospital facilities (especially X-rays) by the patients themselves, to advances in medicine which necessitate hospital treatment, to the abolition of the "charity" factor and the introduction of a free hospital service along with the official propaganda encouraging everyone to make use of it, a shortage of nurses and, in the smaller hospitals, of junior medical staff, and to the building situation in Britain, in which hospitals find themselves in only the third priority, houses and schools coming before them.

Contrary to my expectation, I found, through my questionnaire and from reliable information supplied from other sources, that approximately 70 per cent of the general practitioners in Britain are "reasonably content" with the National Health Service, while 30 per cent say that they feel that their status has altered for the worse and they have a sense of frustration. Many doctors who dislike the Health Service, nevertheless feel that it is a great relief to be able to prescribe freely the expensive antibiotic and other new drugs, and also to visit a sick patient as often as may be necessary, without running up a large bill. One of the great advantages to the doctor is that a consultant can be called into the patient's home whenever necessary — the so-called domiciliary visits, for which extra payment is made to the consultant, and encouraged under the Health Scheme as helping to lessen hospital care.

The old National Insurance Act did not pretend to do more than give the workers general practitioner care of a "working-class practice" standard, and it seems to me a pity that this has been perpetuated for the whole population by the National Health Act. The emphasis in general practice is

upon quantity rather than quality, the family doctor is not encouraged to improve his professional equipment or to work for higher qualifications, only 6,449 beds out of 500,000 beds in hospitals are in general practitioner hospitals, there is no ladder between general practice and consulting or specialist practice, and there is a widening gulf between the family doctor and the specialist. The doctor is no longer the guide, philosopher and friend to the family — except, as I gather, in the country, where the traditional relationship tends to persist. In the towns, particularly, the visit of the doctor has ceased to be a social occasion, for he is anxious usually to press on to the next patient without wasting time. The surgery (office) door is now shut sharp at 7:00 p.m. when the surgery hour is over; the doctor is no longer building up a practice for himself and is not inclined to do more than his duty — nor, indeed, is more than this expected from him by his patients today. This may be only emotion rather than efficiency, but, in spite of the comparative contentment of most general practitioners, something very real seems to have departed from the family practice of medicine in my country.

SOCIALIZED MEDICINE AND THE SPECIALIST.

The specialists or consultants are appointed by and work under the Boards of Governors of teaching hospitals (of which there are 36 in England and Wales) or, in the case of other hospitals, under Regional Hospital Boards, of which there are 14, each taking in a population of about 3,000,000; in Scotland, there are five Regional Boards, four of them based on teaching hospitals. There are approximately 1,500 whole-time specialists in the Health Service, and 4,100 part-time specialists. A young specialist appointed to the staff of a hospital at the age of 31 or earlier receives a starting salary of £1,400 (approximately $5,000) per annum, but at the age of 32 he earns £1,700, gradually increasing until a salary of £2,750 (approximately $10,000) has been reached. As in the case of the general practitioners, there is a contributory pension scheme. In addition, "distinction awards" are given, "in recognition of special

contributions to medicine, exceptional ability, or outstanding professional work"; 4 per cent of all specialists are awarded the first grade of an additional £2,500 per annum (I understand that only one otolaryngologist has been graded in this category), 10 per cent, the second grade of £1,500 per annum, and 20 per cent, the third grade of £500 per annum. The "awards" are confidential, not public, and made by a committee of retired specialists of high standing, of which Lord Moran is the salaried chairman; they were planned as an incentive, and have been accepted by our profession, but I confess that I find the whole idea an unpleasant and rather repulsive one. Part-time specialists receive salaries and awards in accordance with the amount of time (half-day "sessions") they devote to hospital work. In addition, they receive fees (about $15) for domiciliary visits, when called to a patient by a general practitioner. It may be worthwhile to note that if a specialist were to receive the highest possible £5,250 in salary and "award" (about $20,000), income-tax would take from this £2,150 plus £580 surtax, if unmarried, leaving him £2,580 or approximately $10,000, or, if married and with two children, leaving him about £3,030 or some $13,000; few specialists are paid on this scale, but most have some private practice as well.

There are 2,688 hospitals in England and Wales, 996 of which were former "voluntary" hospitals, and 1,545 former "local authority" or municipal hospitals of varying standards. Here is the administrative structure of the hospital side of the scheme, which may indeed be according to modern Socialistic doctrine, but to my mind is against all principles of democracy. It is centralized in the Ministry of Health and, indeed, in the person of the Minister of Health, who, it is true, is responsible to Parliament, which is a popularly elected body. There is a Central Health Services Council of 41 members, 21 of them doctors, to advise him; but it seldom meets (though I believe that its committees do) and the Minister does not ask for its advice. It has been described to me by a prominent member as "eyewash." The teaching hospitals have Boards of Governors, on which there are a

number (less than one-fifth) of doctors representing the hospital staff, and similar numbers nominated by the University and the Regional Board, but the majority of the members are nominated by the Minister. Similarly with the Regional Boards, of which there are 14 in England and another five in Scotland; these Boards are nominated by the Minister "after consultation with such organizations as appear to the Minister to be concerned," not elected, and their chairmen again are not elected by the respective Boards, but nominated by the Minister. Then come 387 Hospital Management Committees for groups of hospitals, similarly nominated "after consultation with organizations concerned" by the Regional Boards, but also do not elect their own (nominated) chairman. All are appointed for three years, but retiring members are eligible for reappointment and, except in rare instances, are in fact reappointed.

Now, the interesting thing is that all these nominations were made by Mr. Aneurin Bevan when Minister of Health and the left-wing element is well-marked; I will give him credit for having picked good chairmen for most of the Boards of Governors of the teaching hospitals (usually the previous chairman, though with one or two notorious political exceptions), but I should be afraid to trust most of the Management Committee members to run a small-town haberdashery store. The Health Service has become the third largest concern in our country, and its enormous administrative staff has a very mixed background, many of the senior "administrative officers," with salaries beyond their wildest dreams, having been local authority clerks of very limited outlook and education. It has been emphasized that there are 11,000 ladies and gentlemen giving voluntary unpaid service to hospital management up and down the country — but obviously most of them, to have enough time for their duties and numerous committees, must be retired persons or married ladies with a taste for committees and clubs, except for the few doctors and others with a professional interest.

The Conservative Government, which many of us had prayed for, has come into power, but it has so many impor-

tant problems of finance and defense upon its mind that it has never got around to considering the structure of the Health Service, and we still have to put up with too many doctrinaire Socialists and superannuated Labor ex-Members of Parliament on our Hospital Boards and Management Committees. I was personally told at a committee meeting by one member of a Management Committee, who had been chairman of a former Poor Law Infirmary, that "he was accustomed to doctors who did what he told them!" It makes me sigh for the good old American principle — when the Republicans (or the Democrats) come in, throw the other fellows out!

SOCIALIZED MEDICINE AND OTOLARYNGOLOGY.

When I came to consider the effect of socialized medicine upon our own specialty, I thought it wise not to rely entirely upon my own experiences, opinions, and perhaps prejudices, but to collect first-hand information from both senior and junior colleagues in different parts of our country, ranging from London (both in teaching hospitals with medical schools and other hospitals), to the large provincial cities (both with medical schools and without), industrial towns in both north and south, university centers, seaside resorts, country towns associated with rural cottage hospitals, up to the Scottish university cities. Altogether I consulted 45 of my friends and colleagues attached to various types of hospital and with widely differing types of practice, and my conclusions are founded on the confidential information supplied by them. I think perhaps it might give a more colorful impression of what is happening to our specialty if I were to read some of the actual letters I have received, selected because they vary in the district and type of hospital, and also in the seniority of the writers in our specialty; they are edited only by being shortened.

Here, for example, is a candid letter from a middle-aged otolaryngologist practicing in a country town and attending a number of cottage hospitals; incidentally, he is violently anti-Socialist in his poltical opinions:

"The domiciliary consultation service has been of real value to folk in rural parts, particularly to patients such as cripples and heart cases. Before, in order to get a specialist to them meant either charity or drawing on much-need savings. Now, anyone can have a specialist brought to them if they need it, and there is no doubt that many a chronic sufferer has derived peace of mind from the second opinion provided by the domiciliary consultation service. The specialist has seen his life greatly altered. Nowadays he spends 80 per cent of his time in hospital and 20 per cent or less at his consulting room (office) in an area like this. Previously, the reverse was the case, or nearly so. Private consultations are not uncommon, but when it comes to operation, then the patient puts for hospital. There is one aspect of the case worth considering and that is that before the Health Act private practice was sufficient to support only a limited number of specialists in this area and many of these had to do general practice as well. This is very different now, as the following figures show:

BEFORE THE ACT.	AFTER THE ACT.
4 General Surgeons (including E. N.T., Gynec. and Orthopedic; 3 of them were in General Practice).	3 General Surgeons
2 General Physicians.	3 General Physicians.
1 Radiologist.	2 Gynecologists.
1 Anesthetist.	2 E.N.T.
1 Pathologist.	2 Ophthalmologists.
1 Ophthalmologist.	1 Dermatologist.
1 Psychiatrist.	2 Psychiatrists.
	2 Orthopedic Surgeons.
	1 Chest Surgeon.
	2 Radiologists.
	2 Pathologists.
	4 Anesthetists.
11	26

"The hospitals of the smaller, but even then growing towns, had entirely general practitioner staffs, whereas now a full consultant service is available. From this it seems evident that the Health Act has greatly extended the scope and availabilities of specialist work in the provincial areas."

The next letter is from a senior colleague of about my own age in a provincial city with a large medical school:

"I should say that the Health Service has adversely affected my private practice, but not to a great extent. The actual number of consultations has not fallen off very much, but smaller private operation fees, both in number and size, are noticeable.

"Hospital waiting-lists have increased and attendance at outpatients' departments has increased enormously. The reason why more attend the outpatients' department, I would say, is that the general practitioners are

inundated with work and refer cases more freely than they used to, in many cases not stopping to examine the patients thoroughly themselves. Immediately the case is deemed an E.N.T. case an instruction to attend the hospital is given.

"I do not think that I have had any particular difficulties with the administration of the Service except that requisitions and alterations alike of buildings, accommodation and policy, have taken very much longer owing to these matters being passed through several committees before decisions are reached. Political bias, I think, is distinctly 'left'; the number of private beds available has in all cases been reduced and it is fairly obvious that many members of committees would like to abolish these private beds altogether.

"I would say that juniors, registrars and junior consultants are very definitely 'feather-bedded.' The salaries today paid to them are, I think, satisfactory, so much so that much of the incentive and drive which was obviously shown by a young man in the past seems to be largely missing. The attitude appears to be that they can sit back and await events; promotion and increase of salary will follow in due course. No doubt in the past the aim to acquire a private practice, whether laudable or not, was a great incentive. My impression is that the young men of today have more or less made up their minds that private practice in the future will be negligible and therefore why bother about it. I think the profession is going to lose something because so many of the young men have adopted this attitude. Of course, the other type with a thirst for knowledge and a wish to do well irrespective of any financial reward will always be with us, but they are very much in the minority."

Now, here are the opinions of one of the most brilliant of my younger colleagues, also situated in a large city with a medical school:

"When I was appointed to my hospital, shortly before the National Health Service began, I was selected by a committee consisting of the entire staff of the teaching hospital, some 70 consultants. This means that I was accepted by them as a colleague, that I must act accordingly in the future, and at the same time feel secure in the knowledge that they selected me to work with them. Nowadays the selection of a consultant is in the hands of a small committee, which in fact can sometimes be packed — it is even possible for an appointment to be pushed through by one individual person. The remainder of the staff have no opportunity to choose their colleagues, and in fact do not know who is appointed.

"I am a part-time consultant, I carry out nine sessions a week under the Health Service and spend the remainder of my time in private practice. An advantage of the Health Service for someone like myself with no real financial backing is that I was paid for the sessional work from the beginning of my appointment and, therefore, had a guaranteed income from which to build up a home and security. The period of waiting for a private practice to appear was therefore eased; however, had there been no Health Service I should have had two difficult years during which I should have had to borrow a sum approximating to my income from the Health Service; I should, however, have been secure in my third year and able to pay back the borrowed money fairly rapidly. The E.N.T. private practice in this area is more healthy at the moment than

most of the other branches of medicine and surgery. If I had been in some of the other specialties I should have not been able to become secure and pay up my debts in the same time.

"I cannot see that the hospital services supplied in my department have improved as a result of the Health Service. We have no more beds, no more nurses, no more assistants, and a longer waiting-list. The Teaching Hospital is more fortunate than nonteaching hospitals in that its internal administration has been rather better preserved. The Endowment Funds have been retained as a research fund and this is available to us.

"I have also been on the staff of a small hospital on the outskirts of the city for the past year. This hospital is far more affected by the National Health Service and in every way it has been for the worse. Before the Service it was a small unit supplying the needs of a town of 50,000 inhabitants. It was run by a combination of general practitioners and visiting consultants. It was thoroughly solvent and had funds for rebuilding. It is now the poor relation of the group of former local authority hospitals in the area, and is administered by a rival hospital in the nearby town. Its funds have been appropriated by the Ministry and it has proved impossible to obtain funds for anything other than very patchy repairs. The standardization of salaries for the resident staff in all hospitals has made it particularly hard hit and the situation as regards internes is quite hopeless. The medical consulting staff have no say whatever in the running of the hospital."

The following are extracts from a letter from an established otolaryngologist in an industrial town:

"My own private practice is barely half what it was prior to July, 1948, and in this I am extremely foruntate compared with many of my colleagues in this area, particularly with my surgical colleagues, whose private practice is now virtually nil.

"In the early stages, the domiciliary consultation system was simply dreadful and on many occasions I arrived home in the evening and found a veritable visiting list. Being unable to contact the patients' doctors, I had no option but to go and see the various patients. By personal contact with the men in practice, and by making suitable arrangements for the reception of emergencies at the hospital, it has been possible to stop the abuse of the domiciliary consultations and now these are infrequent."

The next letter comes from a senior colleague on the staff of a famous London teaching hospital:

"Private practice is still busy, but in an entirely different way. Possibly we see more patients for an initial consultation. When a question of operation arises, patients avail themselves of their privileges and go into the general wards. Parents, however, tend to break into capital and pay something if they can get their children's tonsils and adenoids done more quickly. The fact that patients do not like waiting around hospitals accounts for their willingness to pay a substantial fee to be seen for the first occasion in private. Private patients are not surprised if a high fee is asked for an operation (higher than before the war), but in my experience they will not pay the higher fees and I personally remain at the prewar level.

"Our Board of Governors only have two really troublesome Socialists among the members and on the whole I think that the Chairman handles them fairly well. They both make every mortal thing a political issue based on prejudice and virulent class hatred. They make out a reasonable case for the welfare of the patient, but this is utterly overshadowed by their prejudice against the consultant staff.

"The only trouble we have had with appointments to the Consultant Staff has been from outside assessors, who have wished on us strangers we didn't really want."

The next letter comes from a senior colleague of my own age on the staff of a large teaching hospital in the North:

"I have dropped 25 per cent of my private work. My accountant tells me that I am very lucky, many colleagues apparently having suffered very much more. I am sure that the training nowadays is much better than it was in my day. The young men get better opportunities to do things and realize the necessity to read not merely the textbooks but also the journals for examination purposes; these being on a higher level, I think, also makes for better training.

"I do not find any political bias as such in the Regional Board; but without a doubt the tendency here is to make every possible appointment whole-time, and every opportunity is seized to act accordingly, in spite of all our protests. This Region is far too big and its work is months behind.

"As regards increase of lay staff, I cannot give you an accurate number, but I have no doubt that a conservative estimate is threefold. And much of it very poor quality. All kinds of people have been upgraded, porters and clerks to become heads of departments, who are quite unfitted for their new jobs. And, of course, at about three times their original salaries, or more. Much frustration and stultification is the result.

"The long and short of it is that one is not pushed to give one's best to the job. I still have a few more years to go, and I may well clear out of it before then."

By way of contrast, the following are extracts from the letter of a young friend of mine of "Registrar" status at a teaching hospital in London:

"The opportunities are good from house surgeon to Senior Registrar, but at this point the opportunities become far too few. Too many consultant appointments are for too few sessions. A man with a family cannot afford to leave a full-time appointment as Senior Registrar (£1,000 to £1,300) to do three sessions, say, as a Consultant (£465), in the hope of getting other sessions or some private practice. He depends largely upon a maximum part-time job—nine sessions. There have been only two of these advertised in the last 18 months—*1*. Norfolk and Norwich, and *2*. Dundee. For the Norfolk vacancy there were 22 applicants. There will now be a "pool" of about 25 suitably qualified people waiting for a consultant post and no posts coming up. There are four reasons for this: *1*. There are not as many new consultant posts as were promised when the Health Service started. *2*. There were too many trainees after

the war—from the Services. *3.* Some consultants are being kept on after they are due for retiral. *4.* Some consultants are doing more than nine sessions part-time. This shortage of consultant posts is by no means imaginary. I, myself, know of three junior otolaryngologists who are about to emigrate.

"There really is a big gap between the number of Senior Registrar appointments and the Consultant posts available and there is a lot of strong feeling among Senior Registrars about this, particularly the feeling that something could be done about it and is not being done about it.

"May I finally (merely by way of an example) state my own case? Assuming that I were to complete my four years as a Senior Registrar without getting a consultant job (and it is by no means guaranteed), I would have this record: Age 37, married, two children (both at school), 10 years in E.N.T. work, 13 years qualified, F.R.C.S., D.L.O., quite unacceptable in general practice. No job very likely in the E.N.T. world. It's not a very happy picture, I think you'll agree."

Finally, here is a forthright letter from a young consultant, appointed since the war to a teaching hospital in London:

"My private practice has grown very slowly and I am glad I do not have to live on it, for it has never met the expenses of my consulting room and car. A junior colleague, who was elected to the staff of a famous teaching hospital two years ago, told me that he had only two operations in private in the last four months.

"The same fees are charged for operations now as before the war. The nursing-home or private hospital fees, however, are now so high that few middle-class patients can afford them. Fortunately, a short stay is usual in our specialty, but in other specialties the private ward fees are killing private practice. A neurologist at Queen's Square, for example, will probably need to keep his patient for some weeks and the private ward fee is £23 a week. St. Peter's Hospital for G.U. Diseases is even worse, for here the fee for a private ward is £30 pounds a week. The Elizabeth Garrett Anderson Hospital private fees have gone up from three guineas to 30 guineas a week.

"The question of training specialists is very difficult. The salary of the registrar was fixed by the State in the beginning to allow a reasonable standard of living during his apprenticeship; the result was that competition for these appointments has become more severe, because the prospect of life as a specialist is pleasanter than that of a general practitioner. There are, for example, 12 registrars at the Royal National Hospital, Gray's Inn Road, compared with only one before the war. The prospect that all these men will reach consultant rank is doubtful. Away from the teaching hospitals the opportunities for practical work are good, but no Registrar leaves a teaching hospital if he can help it, as he thinks—rightly—that he will lose his chance of promotion if he does. Many provincial hospitals are, therefore, without junior help, and the surgeon has to do the Registrar's work and sometimes even act as his own House Surgeon.

"It must in fairness be said that the junior consultant like myself has gained from the State Service. I have now a certain income, which is more than I could have hoped for if I relied on private practice. I think I should be wise also to look to the State for my future income

rather than to private practice. The estate agent for Harley Street told me a few days ago that he was trying to alter the regulations of the neighborhood to allow consulting-rooms to be let to professional men of all kinds, and not only to doctors, as the demand for consulting-rooms had fallen off greatly since the State Service.

"The primary F.R.C.S. is now at a level of a first-class honors degree. The future consultant will, therefore, be more gifted academically than he has been in the past, and it remains to be seen whether he will have the other capacities necessary to make a good doctor.

"The next generation of doctors will be more tightly controlled and their standard of living will go down. At present, however, a consultant of my age lives well. My income is more than I could have hoped for, my work fills my day without being exhausting, and the State control lies lightly upon me."

Such, then, is the position in our own specialty; much of it doubtless due to the general economic conditions of our country rather than to the Health Scheme itself. The older consultants are in the main disenchanted but resigned to their fate, the younger consultants seem content enough and perhaps a little complacent, and the juniors who have not yet reached consultant rank seem to feel that they have a right to a consultant appointment, but it is doubtful whether they will ever get it. The comparatively few teaching hospitals have been particularly favored in many ways, but the position of the hundreds of other hospitals has been distinctly worsened.

CONCLUSION.

The main problem of the National Health Service today is how our country is to meet a potentially unlimited demand for increasingly expensive medical care from limited resources. Contrary to popular belief, the Health Service is paid for almost entirely out of general taxation and not by the weekly insurance contributions which everyone has to pay in our country. An employed man and his employer pay nine shillings and five pence between them (about $1.50), and a self-employed person six shillings and six pence (about $1); employed women pay slightly less than men, and married women pay about half a dollar. This adds up to quite a sum in the course of a year, but only 10 pence a week is diverted to Health Service expenses, the rest going to sickness, unemployment, old age and burial insurance.

The finance of the Health Service has gone completely haywire. It was calculated originally to cost £132,000,000, according to the Coalition Government "White Paper" of 1944, and it was estimated that it would be some years before it would cost £10,000,000 for dentistry and £1,000,000 for eye services—in actual fact, in the very first year of the Health Service dentistry cost £28,000,000 and ophthalmic services £20,000,000. Mr. Aneurin Bevan, when he put forward his National Health Service Bill in 1946, calculated that the complete service would cost £152,000,000; but in the first year of its operation under his direction the Service cost £227,000,000; and this was only a beginning: in 1949-50, the total reached £358,000,000, and in 1950-51 it was £460,000,000. The Treasury then stepped in and fixed an arbitrary ceiling for the Health Service of £400,000,000 annually, which nevertheless, has just been exceeded through the Danckwerts award of increased remuneration to the general practitioners. This figure takes little or no account of the millions of capital expenditure necessary to bring up-to-date the hospitals — many of them badly war-damaged — and to increase the number of their beds, for which there is a greatly increased need.

The story of the drug bill shows what happens when no curb is put to the free provision of medicines, dressings and appliances. In 1948-1949 the drug bill was £17,715,000, but last year it exceeded £50,000,000 (or about $200,000,000), an average of £1,476 for each general practitioner, about the same as his own net income from the State, and the checking of the chemists' bills is between seven and 12 months in arrear. Last year, 21 per cent of all prescriptions dispensed were for proprietary preparations, which appears to be an unnecessary extravagance. No wonder the Conservative Government has just imposed a charge of one shilling on each prescription (as well as certain charges for appliances) in order to cut down excessive and unnecessary resort to doctors and pharmacists! Incidentally, 200,000 Government hearing-aids have been issued to deaf patients, and no charge is being made for them yet because the waiting-list already is so lengthy.

Before the last war — as our Socialist friends are apt to forget — nobody in our country needed to be without a doctor. Our profession was of as high a standard as any in the world, and had long been accustomed to charge fees in accordance with the circumstances of the patient. Nineteen million workers were cared for under National Health Insurance, their uninsured dependents paid modest fees to their family doctors, and for persons in actual poverty a Poor Law doctor was provided by the local authority. The hospitals, working independently throughout the country, were kept up by charitable donations from the people in comfortable circumstances and by the regular weekly contributions of a few pence by those less well off, who were accustomed to use the hospitals. Until World War II but few of our voluntary hospitals were in debt to any serious extent, and they were able to pay their way, despite the increasing cost of hospital care even then. The middle classes — who are said to have welcomed the National Health Service most of all — did not care to accept charity in the public wards of the hospitals, but were being cared for by a rapidly increasing number of private wards and private blocks in hospitals in which modified charges were made. After World War II, in spite of the economic position of the hospitals and, indeed, of the country, all that was required to develop the medical services of our country to an adequate degree was financial support for the hospitals and the encouragement of insurance schemes, and it was, in my opinion, quite unnecessary to launch a National Health Service so precipitately and without more consideration. I have endeavored to explain, however, how politics and economics, in conjunction, brought it into being, and what matters now to the politicians is to continue to give some sort of universal service, even if its standard has to be lowered.

If a country wishes to avoid "socialized medicine," I should say: Stay prosperous, avoid wars — and put not your faith in the politicians. It takes a very long spoon to sup with the devil, and political astuteness is not a quality commonly pos-

sessed by doctors — certainly not in my country. Nobody really likes doctors' bills or hospital charges, and our National Health Service is undoubtedly popular with all the political parties and also with the voters. Ninety-seven per cent of the population have put their names down on the Health Service doctors' lists, and last year 75 per cent of them actually made use of the Health Service.

It is wrong, in my opinion, to condone the system of socialized medicine merely because — so far — it has turned out to be not quite so bad as the doctors expected. We have experienced but the first step and if in a few years' time we again have a Socialist Government — as we may well have, for Mr. Churchill's Government has an all-over majority of only 17 — we shall have to put up a serious fight for the maintenance of private practice, which the Socialists are determined to smash if they can. The doctors will have to do as Sarah Bernhardt and Coquelin did long ago with the Comedie Francaise, to the dismay of their faint-hearted colleagues — throw away their salaries and their pension rights, and step boldly into the arena of independent practice. They must seek the support of other professions in the struggle against the cannibalism of the State, for the fight is not only up to the doctors, dentists and medical auxiliaries, but to all professional men and women, lawyers, teachers, engineers, accountants, architects, even artists.

The cost of all professional services (along with the cost of education and training) has risen almost above the ability of the average citizen to pay for them, yet the scope and necessity for their utilization has enormously increased. As a result, there is in our country an increasing proportion of professional people in direct or indirect State employ: only 52 per cent of registered architects and less than two-thirds of incorporated accountants are today in private practice, and the dependence of private practitioners (lawyers, architects, consulting engineers and others) on Government or local Government work is well known (Roy Lewis, 1952). The scientists have been swept into the service of the State to

an extent not generally appreciated: our Government operates some 600 research establishments, and in 1945 formally created the "Scientific Civil Service."

The Hippocratic code has influenced the conduct not only of generations of physicians, but that of other professions also — scientists, engineers, lawyers, artists have all developed as strict a professional conscience as we have. The main ethical principles for all of them are devotion to truth and a sense of responsibility towards the patient or the client, in return for his trust. The code of any profession depends upon the tradition of the ethics of private practice, and if private practice disappears the old tradition will lose its influence upon the new generations of its students and practitioners. While private medical practice survives in our country — while there are 4,000 out of over 5,600 specialists and even 1,000 out of 21,000 general practitioners still in independent practice — the old tradition and the old professional conscience will survive and set the tone for the whole profession and, indeed, for the other professions who have taken their standard from the medical ideal; but if private practice were to disappear altogether — what then? I should like to quote the words which Mr. Roy Lewis, who is not a doctor, wrote in the *British Medical Journal* the other day: "Let us make no mistake," he wrote, "when all professional people are officials, there will be no doctors, no lawyers, no artists, and probably no scientists either. There will be no professions; and no life worth living."

ACKNOWLEDGMENTS.

I express my warmest thanks to the many friends and colleagues who have helped me with facts in the preparation of this paper — though they are in no way responsible for the opinions I have expressed. In particular, I should like to thank the 45 otolaryngologists who generously wrote letters to me on the subject and the 60 general practitioners who kindly replied to my questionnaire. The files of the *British Medical Journal*, *The Lancet*, and *The Times* have been invaluable to me. The Editor of the *British Medical Journal*,

Dr. Hugh Clegg, and Dr. Angus Macrae, the Secretary of the British Medical Association, have been very kind, and Dr. E. E. Claxton, the Assistant Secretary of the B.M.A. who deals with the Consultants and Specialists Committee, was particularly helpful in directing me towards sources of first-hand information and statistics. The President of the Royal College of Surgeons, Sir Cecil Wakeley, Bart., and the Honorary Secretary of the Fellowship for Freedom in Medicine, Dr. E. C. Warner, are among others to whom I am grateful for information and advice.

Besides the books and articles to which reference is made below, I have consulted many pamphlets, reports and memoranda published by the British Medical Association, notably "A General Medical Service for the Nation," 1938; the Medical Planning Commission's "Draft Interim Report," 1942; "Tuberculosis and the National Health Service," 1950; the "Summary of Main Current Figures, England and Wales, of the National Health Service," June, 1951; also the "Annual Reports" of the Ministry of Health, particularly that for 1950, published in December, 1951; Sir William (now Lord) Beveridge's "Report on Social Insurance and Allied Services," 1942; and the Central Health Services Council's "Report on Cooperation Between Hospital, Local Authority and General Practitioner Services," 1952.

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CENTRAL ILLINOIS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY.

The next meeting of the Central Illinois Society of Ophthalmology and Otolaryngology will be held at the Abraham Lincoln Hotel in Springfield, Ill., on Sept. 12, 13 and 14. The guest speakers will be Dr. Paul A. Chandler, of Boston, Mass., and Dr. Thomas C. Galloway, of Evanston, Ill.

NASAL AND PARANASAL SURGERY — A RECONSIDERATION OF FORMER METHODS.*

GEORGE L. WHELAN, M.D.,
Philadelphia, Pa.

Many forms of treatment of sinusitis now prevail and seem to be on the increase. They include "the allergic management" local intranasal treatments which consist of conservative sinus irrigations, the use of chemotherapy and the antibiotics in the early stages, etc.; however, we frequently overlook something much more important, such as the indications for more extensive surgical procedures. A conservative trend is developing, probably because almost everyone today thinks in terms of conservative management. Thus in those cases in which surgery is actually indicated, such procedures are frequently delayed or overlooked. The objective in any form of treatment is ultimate and possibly permanent improvement to the patient; that is to say, improvement in function. The patient is interested only in having a nose that gives him good service, and if surgery is indicated, the patient should be given the benefit of such surgery. The thought occurred to me that it would be well to review some intranasal conditions which may or may not be amenable to conservative management.

There seems to be a group of borderline cases which cannot always be definitely placed in either the medical or surgical classification. Such patients should be given the benefit of intelligent medical care before surgery is considered. They should be treated for a period of from four to six weeks, then if they do not respond favorably to treatment they should be managed surgically. Occasionally patients present themselves for treatment in the clinics and private practice who have

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had months or years of ineffectual minor surgical manicuring of various types or a medical treatment which had no reasonable justification. The examiner who had previously treated such a case may have overlooked the fact that the pathology was in the sinus lining and not always in the nose. He may have failed to realize that all of the existing circumstances preclude any hope of success from the various local efforts. A certain line of treatment may have been followed because it had been described and not because it produced the desired result. When such existing intranasal conditions have been carefully studied and treated, without responding to such controlled treatment, we should then without further delay resort to surgical intervention.

Submucous resection of the nasal septum is one surgical procedure which is now rarely performed. Today enthusiasm seems to be swaying away from that operation. There are, however, many cases where a submucous resection is a necessary procedure regardless of any other management of intranasal conditions. Some of these conditions include cases where the patient shows a markedly deflected or thickened nasal septum which interferes with normal breathing, whether or not such a condition is associated with an allergic state where medical treatment has not helped. Such an obstruction to normal breathing causes the patient much discomfort, and surgical intervention would seem to be indicated.[1] In such a case most rhinologists agree that the patient should be given the benefit of this kind of surgery. By removing the obstruction the patient will experience considerable relief. The fibrous contraction between the mucous membrane flaps after removal of the blocking septum establishes a better airway for the patient. If such a patient is being managed only from the allergic standpoint this result may not be accomplished.

A deflected nasal septum which interferes with the treatment of any intranasal condition, such as polypi or infection in the anterior or posterior ethmoid cells, should be operated upon to facilitate the surgical approach. Unless this operation is done, polypi or diseased ethmoid cells which are inac-

cessible to instrumentation cannot be operated upon satisfactorily intranasally. When this procedure is done, the thorough surgical removal of diseased tissue is possible.

For the same reason, any intranasal manipulation, such as irrigating the antra, or when contemplating other intranasal procedures, such as an antrum window, the bony septum should be removed if there is not sufficient room in which to perform the procedure successfully. Not infrequently a submucous resection of the nasal septum may be necessary to obtain sufficient room for an antrum puncture. In such cases removing a spur which blocks the approach beneath the inferior turbinate, together with removal of the bony nasal septum, will render the area much more accessible for future irrigations and also allow sufficient room to elevate the anterior third of the inferior turbinate if necessary.

Pressure[2] by septal ridges against the upper nasal areas is still a cause of headaches, which symptom is frequently relieved by removal of the obstruction and pressure caused by the septum.

The maxillary sinus may present a subacute or chronic sinus infection which may not yield to treatment by irrigations. The patient may be carefully studied by opaque fluid and X-ray, and no polypi or pathological mucous membrane may be demonstrable. In such a patient one may hesitate to do an extensive maxillary sinus operation. The subacute maxillary infection may readily yield to the large antral fenestration. There are some rhinologists who prefer this method to a Caldwell-Luc operation, and report satisfactory results.[3] My experience with this procedure has been satisfactory in selected cases.

Polypi sometimes do seem to recur after removal. Allergists seem to be of the opinion that the growth of polypi can be controlled by allergic management. Some of the cases seen and studied in the clinics as well as in private practice had previously been studied and allergically managed without benefit to the patient. It is the duty of the rhinologist to give such patients the benefit of such surgery as may be indicated.

Surgical neglect of such patients may happen if we are overwhelmed by the current trend. In some cases removal of polypi surgically may be indicated.

When tissue which has been carefully examined (this includes the so-called allergy-ridden membrane) and found to be chronically inflamed and infected, and the distribution of infection within the membrane is such that the patient's health as well as his comfort is impaired, surgical removal should be considered, preferably through a thorough or radical operation. In such cases the external approach in competent hands gives promise of a good result. When tissue is pathologically diseased and ceases to function normally it should be removed.

Much has been written about operative interference in acute sinus conditions, notably the frontal sinus. If taken too seriously, this is apt to lead into difficulties many operators who follow blindly the pronouncement of those authorities. We know there are certain acute cases in which surgery is dangerous; we must also consider that there are many fulminating cases of frontal sinusitis which require immediate and complete drainage for the safety of the patient. The rules which govern general surgery apply here, with necessary allowance for the difference in the anatomical structures involved; therefore, to lay down a hard and fast rule without qualifications and to try to treat all cases by this rule may be a very dangerous policy. Each case should be evaluated on its own merits and operated or not, according to the indications present. In the earlier days of frontal sinus surgery the tendency in operating was to do too little; then came a period of radical surgery; and now we are in danger of going back to the ultraconservative attitude. No surgery, or incomplete sinus surgery, may be responsible for the present-day feeling of hesitancy in operating when extensive sinus surgery is indicated.

When we do operate on acute cases, in which immediate surgical intervention is indicated, we should try to secure thorough and complete drainage, using every additional aid

to our surgery, such as transfusions, chemotherapy, etc. An incomplete or an inadequate operation, when extensive surgery is indicated. is simply an aggravation lowering the local and general resistance of the patient and failing to secure good aeration and drainage. Complications of meningitis and brain abscess are occasionally seen in acute fulminating cases. Such cases demand early and complete exposure and drainage. We do not hesitate to operate early upon an acute mastoid, so why lay down a special set of rules for the frontal sinus?

A chronic frontal sinus infection may occasionally respond to intranasal drainage. One hesitates to use a rasp to enlarge the nasofrontal duct, because of the possibility of callous formation and perhaps later a blocking of the nasofrontal duct; however, much benefit may be obtained in some cases by thoroughly removing the anterior third of the middle turbinate.[4]

The sphenoid sinus is probably neglected more than any other sinus because of its difficult location. The approach is made more difficult when a large middle turbinate, thickened nasal septum, or a bulging septal dislocation blocks surgical manipulation. Were it not for those two structures, the sphenoid sinus would be less frequently neglected. One reads not infrequently of cases of meningitis of obscure origin, only to find at postmortem examination an infected sphenoid sinus which had perforated into the cranium. Thorough anesthetization of the middle turbinate and septum with cocaine-adrenaline solution will enable the operator to reach the sphenoidal osteum for irrigation without discomfort to the patient. A flexible small catheter may be used. In view of the seriousness of complications which may arise from the sphenoid sinus, the removal of the middle turbinate as well as removal of a thickened bony nasal septum, to facilitate entrance to the sphenoid sinus should be considered. If the inflammatory process in the sphenoid sinus does not confine itself to the mucoperiosteal layer, but extends to the walls with bony destruction, very serious consequences may ensue.

Sudden unilateral blindness has been observed. According to Hajek,[5] the blindness is caused by either compression of the optic nerve in the optic foramen or by perineuritis. A destruction of the dividing wall between the sphenoid sinus and the optic foramen may also occur. The rupture of serous or suppurative secretion into the retrobulbar tissues may lead to exophthalmos. By extension of the inflammatory process through the optic canal, meningitis may occur. The symptom-complex exophthalmos and sudden blindness in the presence of a suppuration of the sphenoid sinus indicates that extension of the process to the orbit has taken place. Tumors of the sphenoid may also produce the same symptom-complex. Proetz[6] suggests that in operations upon the sphenoid sinus, the osteum should remain intact, and the sinus approached medial to the osteum. This is a point well taken.

New growths within the nasal cavity, such as bleeding polypi or polypoid tissue, should not be treated too lightly. Sufficient tissue for biopsy from several areas should be removed. Such tissue should also be removed when it is causing obstruction, thereby preventing proper aeration and drainage of the sinuses.

Early cancers of the paranasal sinuses may be silent lesions; consequently, the diagnosis in many cases is made after the lesion has become extensive. This is all the more reason, therefore, why the patient should be given immediate and adequate treatment. This treatment, if it is to be successful, cannot be applied routinely. Rather, each case must be individualized and carefully evaluated. Cancer of the sinuses has always been extremely difficult to manage. To be effective, surgery must be radical; likewise, radiotherapy is seldom effective unless it is radical and well planned. Even with what has been considered the best of treatment, however, results are not too encouraging. If such cases can be diagnosed early and the existing conditions are amenable to radiation or surgery when indicated, we may possibly prolong the patient's life.

NASAL FIBROMA.

Much is written about this topic and the difficulties experienced by the operator in surgical procedures in this area; however, there are a number of cases where the surgical approach may be helped by removal of the middle or inferior turbinate, permitting access to the posterior area of the nose, making intranasal surgery possible. A Tyding snare may prove helpful in removing this growth in part or *in toto* without experiencing too much difficulty. One should, of course, be prepared to manage loss of blood by transfusions, by administering plasma or by packing.

While it may be wise to limit our surgery to the intranasal approach, such an approach frequently being less incapacitating to the patient, one must not avoid the external approach when necessary. The Caldwell-Luc operation, for instance, in dealing with extensive pathology in the maxillary sinus could be the only adequate procedure in many instances. The frontoethmosphenoid operation through a small incision at the nasal dorsum with proper instruments and lighting, such as described by Lynch,[7] Sewell and Ferris Smith, have replaced disfiguring operations, such as those described by some of the older operators, Hajek, Fine and others. This is proper because when properly executed all the necessary surgery could be accomplished. In a very large frontal sinus with deep frontal recesses the modified Killian operation, leaving a frontal ridge to lessen the deformity, would seem to be indicated.

When osteomyelitis of the frontal bone is present, however, disfigurement is not to be considered, because the life of the patient is at stake. On the other hand, such conditions as orbital abscesses, ethmoiditis with polypoid formation, which cannot be adequately treated intranasally, are quite amenable to the approach by a small extranasal incision. The effects of the antibiotics upon the clinical symptoms may obscure the picture and cause us to lose sight of the fact that the pathological process may be extending, even though the temperature, blood count, etc., seem to be within normal limits. For this reason cases being treated with these agents should be

studied with careful scrutiny, and vigilance should be maintained for some time after the discontinuance of the drug, to make sure that a recurrence of the infection does not develop.

Intracranial complications resulting from sinus infections should definitely be included in the realm of otolaryngology and the otolaryngologist should be fully equipped to manage such complications, as emphasized by Shuster[8] in his paper read before the American College of Physicians in February of this year.

We feel that a helpful suggestion in the right direction may be for the rhinologist to keep careful records of surgery performed throughout the year, directing particular attention to the types of sinus surgery performed upon patients with associated chest involvement, or with threatened intracranial or intraorbital complications, or with other complications with definite indications for sinus surgery. Postoperative results could be evaluated and a record kept, including symptoms, indications for operation and postoperative results in each case. These records could then be pooled. Later the pooled statistics from the various hospitals could be published with a final evaluation of end-results. Such information might prove to be a most helpful guide in selecting the proper surgical procedure to obtain the best results in a given case. Many of the effects of improper surgery, and the criticism developing therefrom, could thus be avoided, with considerable benefit to the patient.

SUMMARY.

An attempt is made to call attention to a number of existing cases where intranasal surgery or the external approach may be indicated. The trend to conservative treatment may sometimes cause us to overlook such cases. We should guard against being swayed too much by the trend, and it would seem that we should remember that there still exists a number of cases which require surgery. The inclination to be conservative by intranasal surgery must not stand in the way of extensive nasal surgery if the patient's life is in danger.

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BOOK REVIEW.

Speech Training. A Handbook for Students. By A. Musgrave Horner, Lecturer on Speech Training at Stranmillis College, Belfast. 176 pages with index and eight figures. New York: Philosophical Library, 15 East 40th Street, 1951. Price $6.00.

For those interested in improving speech this book contains a series of practical exercises which should be extremely valuable. It is not an advanced book but should be useful for the beginning student.

S. R. S.

HEARING AIDS ACCEPTED BY THE COUNCIL ON PHYSICAL MEDICINE OF THE AMERICAN MEDICAL ASSOCIATION.

August, 1952.

Audicon Models 400 and 415.
Manufacturer: National Earphone Co., Inc., 20-22 Shipman St., Newark 2, N. J.

Audivox Model Super 67.
Manufacturer: Audivox, Inc., 259 W. 14th St., New York 11, N. Y.

Aurex Models L and M.
Manufacturer: Aurex Corp., 1117 N. Franklin St., Chcago, Ill.

Beltone Symphonette; Beltone Mono-Pac Model M.
Manufacturer: Beltone Hearing Aid Co., 1450 W. 19th St., Chicago, Ill.

Cleartone Model 500; Model 700; Cleartone Regency Model.
Manufacturer: American Sound Products, Inc., 2454 S. Michigan Ave., Chicago 16, Ill.

Dahlberg Model D-1; Dahlberg Junior Model D-2.
Manufacturer: The Dahlberg Co., 2730 W. Lake St., Chicago 16, Ill.

Dysonic Model 1.
Manufacturer: Dynamic Hearing Aids, 43 Exchange Pl., New York 5, N. Y.

Electroear Model C.
Manufacturer: American Earphone Co., Inc., 10 East 43rd St., New York 17, N. Y.

Gem Hearing Aid Model V-35; Gem Model V-60.
Manufacturer: Gem Ear Phone Co., Inc., 50 W. 29th St., New York 1, N. Y.

Maico UE-Atomeer; Maico Quiet Ear Models G and H; Maico Model J.
Manufacturer: Maico Co., Inc., 21 North Third St., Minneapolis 1, Minn.

Mears (Crystal and Magnetic) Aurophone Model 200; 1947—Mears Aurophone Model 98.

Manufacturer: Mears Radio Hearing Device Corp., 1 W. 34th St., New York, N. Y.

Micronic Model 303; Micronic Model "Mercury"; Micronic Star Model.

Manufacturer: Micronic Co., 727 Atlantic Ave., Boston 11, Mass.

Microtone T5 Audiomatic; Microtone Classic Model T9; Microtone Model T10; Microtone Model T612; Microtone Model 45.

Manufacturer: Microtone Co., Ford Parkway on the Mississippi, St. Paul, Minn.; Minneapolis 9, Minn.

National Cub Model C; National Cub Model D (Duplex); National Standard Model T; National Star Model S; National Ultrathin Model 504; National Vanity Model 506.

Manufacturer: National Hearing Aid Laboratories, 815 S. Hill St., Los Angeles 14, Calif.

Otarion Model E-4; Otarion Models F-1, F-2 and F-3; Otarion Model G-2; Otarion Model G-3.

Manufacturer: Otarion Hearing Aids, 159 N. Dearborn St., Chicago, Ill.

Paravox Model D, "Top-Twin-Tone"; Model J (Tiny-Mite); Paravox Model XTS (Xtra-Thin); Paravox Model Y (YM, YC and YC-7) (Veri-Small).

Manufacturer: Paravox, Inc., 2056 E. 4th St., Cleveland, Ohio.

Radioear Permo-Magnetic Multipower; Radioear Permo-Magnetic Uniphone; Radio Ear All Magnetic Model 55; Radioear Model 62 Starlet; Model 72.

Manufacturer: E. A. Myers & Sons, 306 Beverly Rd., Mt. Lebanon, Pittsburgh, Pa.

Rochester Model R-1; Rochester Model R-2.
Manufacturer: Rochester Acoustical Laboratories, Inc., 117 Fourth St., S.W., Rochester, Minn.

Silvertone Model J-92; Silvertone Model P-15.
Manufacturer: W. E. Johnson Mfg. Co., 708 W. 40th St., Minneapolis, Minn.
Distributor: Sears, Roebuck & Co., 925 S. Homan Ave., Chicago 7, Ill.

Solo-Pak Model 99.
Manufacturer: Solo-Pak Electronics Corp., Linden St., Reading, Mass.

Sonotone Model 700; Sonotone Model 900; Sonotone Models 910 and 920; Sonotone Model 925; Sonotone Model 940; Sonotone Model 966.
Manufacturer: Sonotone Corp., Elmsford, N. Y.

Superfonic Hearing Aid.
Manufacturer: American Sound Products, Inc., 1303 S. Michigan Ave., Chicago 5, Ill.

Televox Model E.
Manufacturer: Televox Mfg. Co., 1307 Sansom St., Philadelphia 7, Pa.

Telex Model 97; Telex Model 99; Telex Model 200; Telex Model 300B; Telex Model 400; Telex Model 500; Telex Model 1700.
Manufacturer: Telex, Inc., Telex Park, Minneapolis 1, Minn.

Tonamic Model 50.
Manufacturer: Tonamic, Inc., 12 Russell St., Everett 49, Mass.

Tonemaster Model Royal; Model Cameo.
Manufacturer: Tonemasters, Inc., 400 S. Washington St., Peoria 2, Ill.

Unex Midget Model 95; Unex Midget Model 110; Unex Models 200 and 230.
Manufacturer: Nichols & Clark, Hathorne, Mass.

Vacolite Models J and J-2.
Manufacturer: Vacolite Co., 3003 N. Henderson St., Dallas 6, Tex.

Western Electric Models 65 and 66.
Manufacturer: Audivox, Inc., successor to Western Electric Hearing Aid Division, 259 W. 14th St., New York 11, N. Y.

Zenith Model 75; Zenith Miniature 75; Zenith Model Royal; Zenith Model Super Royal.
Manufacturer: Zenith Radio Corp., 6001 Dickens Ave., Chicago, Ill.

All of the accepted hearing devices employ vacuum tubes.

Accepted Hearing Aids more than five years old have been omitted from this list for brevity.

TABLE HEARING AIDS.

Aurex (Semi-Portable).
Manufacturer: Aurex Corp., 1117 N. Franklin St., Chicago 10, Ill.

Precision Table Hearing Aid.
Manufacturer: Precision Hearing Aids, 5157 W. Grand Ave., Chicago 39, Ill.

Sonotone Professional Table Set Model 50.
Manufacturer: Sonotone Corp., Elmsford, N. Y.

All of the Accepted hearing devices employ vacuum tubes.

DIRECTORY OF OTOLARYNGOLOGIC SOCIETIES.

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Vice-President: Dr. Frederick T. Hill, Professional Bldg., Waterville, Me.
Secretary: Dr. John R. Lindsay, 950 E. 59th St., Chicago 37, Ill.
Meeting: Roosevelt Hotel, New Orleans, La., May 1-2, 1953.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

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Secretary: Dr. Louis H. Clerf, 1530 Locust St., Philadelphia 2, Pa.
Meeting: Roosevelt Hotel, New Orleans, La., Apr. 26-27, 1953.

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Secretary: Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y.
Meeting: Roosevelt Hotel, New Orleans, La., April 28-29, 1953 (mornings only).

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Meeting: Palmer House, Chicago, Ill., Oct. 12-17, 1952.

AMERICAN BOARD OF OTOLARYNGOLOGY.

Meeting: Palmer House, Chicago, Ill., Oct. 6-10, 1952.
Meeting: Roosevelt Hotel, New Orleans, La., Apr. 21-25, 1953.

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Secretary: Dr. Edwin N. Broyles, 1100 N. Charles St., Baltimore 1, Md.
Meeting: Roosevelt Hotel, New Orleans, La., Apr. 28-29, 1953 (afternoons only).

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Vice-Chairman: Dr. Irvin Feldman.
Secretary: Dr. Frasier Williams.
Treasurer: Dr. John Louzan.
Meetings are held on the third Tuesday of October, November, March and May, 7:00 P.M.
Place: Army and Navy Club, Washington, D. C.

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Vice-President: Dr. Ralph H. Riggs, 1513 Line Ave., Shreveport, La.
Secretary: Dr. Edley H. Jones, 1301 Washington St., Vicksburg, Miss.
Meeting: Edgewater Gulf Hotel, Edgewater, Miss., May 11, 1953.

OTOSCLEROSIS STUDY GROUP.

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Secretary: Dr. Theo. E. Walsh, 640 S. Kingshighway, St. Louis 10, Mo.
Meeting: Palmer House, Chicago, Ill., Oct. 11, 1952.

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Secretary-Treasurer: Dr. Joseph Hampsey, 806 May Bldg., Pittsburgh 22, Pa.
Meeting: Palmer House, Chicago, Ill., Oct. 17, 1952.

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President: Dr. Justo M. Alonzo, Montevideo.
Executive Secretary: Dr. Chevalier L. Jackson, 1901 Walnut St., Philadelphia 3, Pa., U. S. A.
Meeting: Fourth Pan American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology.
President: Dr. Ricardo Tapia Acuna, Mexico City.
Time and Place: January, 1954, Mexico City.

MISSISSIPPI VALLEY MEDICAL SOCIETY.

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Meeting: St. Louis, Hotel Jefferson, Oct. 1-3, 1952.

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For Otolaryngology, Charlottesville, Va., Nov. 21-22, 1952.
Spring Meeting: Hot Springs, Va., May, 1953.

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Chairman of E. N. T. Section: Dr. Harold Owens.
Recording Secretary, E. N. T. Section: Dr. Donald B. Hull.
Chairman of Eye Section: Dr. Deane Hartman.
Recording Secretary, Eye Section: Dr. Robert Norene.
Time: 6:00 P.M., fourth Monday of each month from September to May, inclusive.

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Secretary General: Dr. Victorino Marquez Reveron.
Secretary of Assemblies: Dr. Cesar Rodriquez.
Time and Place: Caracas, Venezuela, July 31, 1954.

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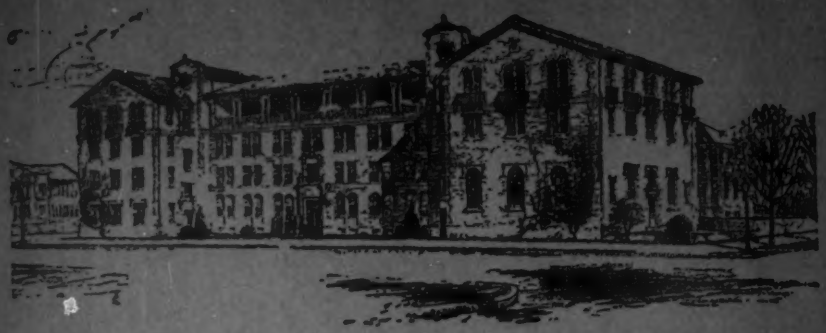

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